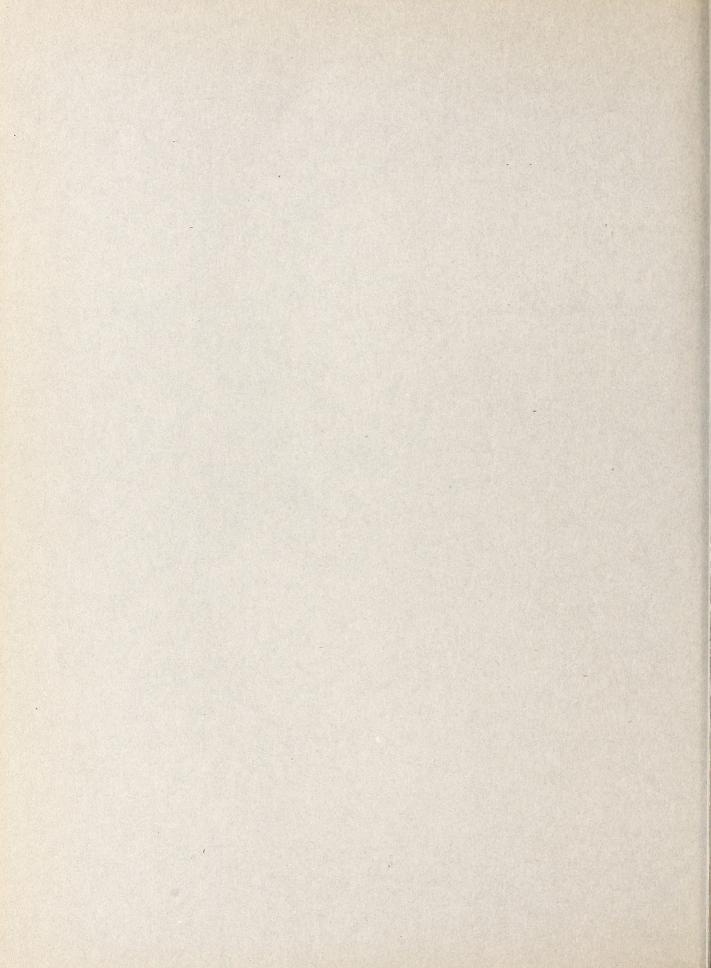
IONOSPHERIC DATA

ISSUED
SEPTEMBER, 1945



IRPL-F 13

INTERSERVICE RADIO PROPAGATION LABORATORY NATIONAL BUREAU OF STANDARDS WASHINGTON, D.C.

Issued 20 Sept. 1945

Organized under Joint U.S. Communications Board

IONOSPHERIC DATA

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TERMINOLOGY AND SCALING PRACTICES

The symbols and terminology used in this report are those adopted by the International Radio Propagation Conference, and given in detail on pages 24 to 26 of the report IRPL-C61, "Report of International Radio Propagation Conference", and in the Section on "Terminology", in reports IRPL-F1, 2, 3, 4, 5.

In the past, ionospheric conditions were summarized on a monthly basis by using average or mean values, for each hour of the day, for each month. However, following the recommendations of the International Radio Propagation Conference, held in Washington 17 April to 5 May 1944, beginning with data for 1 Jan. 1945, median values were used by IRPL wherever possible. Thus, median values are given for Washington, for all stations reporting directly to the IRPL, for the Canadian stations, and for all others sending in detailed tabulations to the IRPL, from which medians can be computed.

Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data existed.

The monthly median values used here are the values equalled or exceeded on half the days of the month at the given hour. The following conventions are used in determining the medians for hours when no measured values are given, because of equipment limitations and ionospheric irregularities. Symbols used are those given in the report referred to above, IRPL-C61.

- a. For all ionospheric characteristics:

 Values missing because of A, B, C or F (see terminology referred to above) are omitted from the median count.
- b. For critical frequencies and virtual heights:

 Values missing because of E are counted as equal to or less
 than the lower limit of the recorder.

Values missing because of D are counted as equal to or greater than the upper limit of the recorder.

Values missing because of G are counted:

- 1. For foF2, as equal to or less than foF1.
- 2. For h'F2, as equal to or greater than the median. Values missing for any other reason are omitted from the median count.
- c. For muf factors (M-factors):

 Values missing for any reason are omitted from the median count.

d. For sporadic E (Es);

Values of fEs missing because no Es reflections appeared, the equipment functioning normally otherwise, are counted as equal to or less than the lower limit of the recorder.

Values of fEs missing for any other reason, and values of hEs missing for any reason at all, are omitted from the median count.

MONTHLY AVERAGE AND MEDIAN VALUES OF IONOSPHERIC DATA

The ionospheric data given here in graphical and tabular form were assembled by the Interservice Radio Propagation Laboratory for analysis and correlation, incidental to IRPL predictions of radio propagation conditions. The following are the sources of the data:

Australian Council for Scientific and Industrial Research Radio Research Board, Australia Brisbane, Q., Australia Mt. Stromlo, Canberra, NSW, Australia Cape York, Q., Australia.

British National Physical Laboratory, and Inter-Services Ionosphere Bureau Radio Research Station, Slough, England Great Baddow, England Burghead, Scotland Delhi, India Madras, India Simonstown, Union of S. Africa Colombo, Ceylon.

Canadian Radio Wave Propagation Committee Churchill, Canada Ottawa, Canada St. John's, Newfoundland Prince Rupert, Canada Victoria Beach, Canada

New Zealand Radio Research Committee

Kermadec Is.

Christoburch (Canterbury University College Observatory)

Campbell I.

Pitcairn I.

Rarotonga I.

Interdepartment Ionosphere Bureau, U.S.S.R. Scientific Experimental Institute of Terrestrial Magnetism, Moscow, U.S.S.R.

Tykhi Bay, U.S.S.R.
Tomsk, U.S.S.R.
Sverdlovsk, U.S.S.R.
Moscow, U.S.S.R.
Leningrad, U.S.S.R.
Alma Ata, U.S.S.R.

Carnegie Institution of Washington (Department of Terrestrial Magnetism)
Baffin I., Canada
Christmas I.
Fairbanks, Alaska (University of Alaska, College, Alaska)
Reykjavik, Iceland
Maui, Hawaii
Trinidad, Brit. West Indies
Huancayo, Peru
Watheroo, W. Australia

United States Army Signal Corps Leyte

National Bureau of Standards Washington, D.C.

Stanford University,
San Francisco, California

Louisiana State University, Baton Rouge, Louisiana

University of Puerto Rico, San Juan. P.R.

Harvard University, Boston, Mass.

The tables of "provisional data" give values as reported to the IRPL by telephone or telegraph. Any errors in these values will be corrected in later issues of the F-series reports. In final data tabulations, any omission of values previously given in provisional tabulations is indicated by a dash.

The tables and graphs of "final data" are correct for the values reported to the IRPL, but, because of variations in practice in the interpretation of records and scaling and manner of reporting of values, may at times give an erroneous conception of typical ionospheric characteristics at the station. Some of these errors are due to:

a. Differences in scaling records where spread echoes are present.

- b. Omission of values where for is less than or equal to for leading to erroneously high values of monthly average or median values.
- c. Omission of values where critical frequencies are less than the lower frequency limit of the recorder, also leading to erroneously high values of monthly average or median values.

These effects were discussed on pages 6 and 7 of the previous F-series reports, IRPL-F1, 2, 3, 4, and 5. Discrepancies between predicted and observed values are often ascribable to these effects.

IONOSPHERIC DATA FOR EVERY DAY AND HOUR

These data, observed at mashington, D.C., follow the scaling practices given in the report IRFL-C61, "Report of International Radio Propagation Conference," pages 36 to 39, and the median values are determined by the conventions given under "Terminology and Scaling Practices" above. Beginning this month the table of values of F2-M3500 is omitted, since these values can be readily derived from the values of F2-M3000.

IONOSPHERE DISTURBANCES

Table 63 presents ionosphere character figures for Washington, D.C., during August 1945, as determined by the criteria presented in the report IRPL-R5, "Criteria for Ionospheric Storminess", together with American magnetic K-figures which are usually covariant with them.

Table 64 presents sudden ionosphere disturbances as observed at Washington, D.C., during August 1945.

Table 65 gives provisional radio propagation quality figures for North Atlantic and North Pacific areas, for Ol to 12 and 13 to 24 GCT, July 1945, compared with the IRPL daily radio disturbance warnings, and ISIB daily warnings, the IRPL semiweekly radio propagation forecasts for the A-zone, and the half-day American geomagnetic K-figures.

The radio propagation quality figures were prepared from radio traffic data, reported to IRPL, in the manner described in detail in report IRPL-R13, "Ionospheric and Radio Propagation Disturbances, October 1943 through February 1945," issued 24 May 1945.

PRELIMINARY REPORT ON IONOSPHERIC DATA FOR SOLAR ECLIPSE 9 JULY, 1945

The solar eclipse of 9 July 1945 was notable in that, although it was of shorter duration and somewhat narrower path than the average, its coverage by ionospheric measurements was undoubtedly more complete than that for any other. This was not only because of the recent establishment of additional ionosphere stations, but principally because the path of the eclipse lay in the geographical regions where regular observing stations, many of long standing, were located in greatest proximity.

The duration of the eclipse was between about 1200 to 1500 GCT, the path of totality beginning near Boise, Idaho, and ending near Tashkent, U.S.S.R. The partial phase was visible over practically all of the North American continent, all of Europe, and the northwest and northern part of Asia.

Maps showing the path of the eclipse, as well as tables giving the elements, local circumstances, and other pertinent data, are given in "The American Ephemeris and Nautical Almanac", 1945, p.325, 329-333, and, more completely, in the supplement to this, "Total Eclipse of the Sun, July 9, 1945," both issued by the U.S. Naval Observatory, Washington, D.C.

Solar activity during the eclipse period was rather low, thus insuring data for the eclipse day, as well as control data for a period before and after the eclipse day, reasonably free from effects other than those due to solar obscuration. Three spot groups of low activity were reported by Mt. Wilson Observatory, their heliographic latitudes and longitudes being, respectively, N17° W71°, N18° E61°, S20° E75°, all being too far from meridian passage for the disturbance of ionospheric conditions. Fairly large calcium flocculi in the neighborhood of these spot groups, as well as small flocculi at S28° W22°, N27° E13°, S01° E33°, N23° W18°, having areas respectively of 8300, 700, 2000, and 600 millionths of the solar disc, were reported by McMath-Hulbert Observatory.

Geomagnetic character figures covering the eclipse day and control periods preceding and following it are given in Table 69 of the preceding issue of this report, IRPL-F12. A short period of moderate disturbance on 6 July was associated with above-average green coronal intensity appearing at the east limb as late as 2 July, apparently indicating the active area in the neighborhood of the first of the small flocculi mentioned above. West limb green coronal intensity, associated with the same active area, was above average from 11 July to 16 July.

Ionospheric measurements were made at intervals of fifteen minutes or less during the eclipse day, and a control period of several days before and after 9 July, at a number of stations in Canada and the United States. Most of these data are not yet available at IRPL, since considerable time is needed for scaling of the records. Figs. 52 through 55 are plots of the regular-layer characteristics for the eclipse day (heavy line) with the control days all superimposed (light lines), for Boston, Mass., San Francisco, Calif., Baton Rouge, La. and San Juan, P.R. They were plotted in this manner to illustrate the variability of the data, even on normal days and to show the relationship of the values during the eclipse to the normal scatter. As may be seen, the normal variability of the ionosphere was great enough to obscure any significant eclipse effect.

San Juan, Puerto Ricc, lay just outside the colipse region. No anomalies inconsistent with the usual day-to-day variations were noted. The eclipse ended at about sunrise at San Francisco, Calife Similarly, no variations in ionospheric behavior in excess of day-to-day variability were observed in this case. At Baton Rouge, Louisiana, there were likewise no anomalies ascribable to the eclipse, although this station lay in the region of partial eclipse, where the magnitude of eclipse was 0.52 at 1148 GCT (0548, 90°W), beginning at about sunrise and ending at 1239 GCT (0639, 90°W). Absence of any notable eclipse effect here is not surprising since the lower ionospheric layers, in which it would be most apparent, were barely forming at the time of eclipse. At Boston, Massachusetts, the magnitude of the eclipse was 0.58 at 1206 GCT (0706, 75°W), beginning at 1109 GCT (0609, 75°W) and ending at 1309 (0809, 75°W). Some indication is given of lowered frequencies in all three ionospheric layers during the latter part of the eclipse period, but the fragmentary nature of the data does not admit of significant exact analysis when used alone.

Intercomparison of data from all observing stations is necessary in the determination of eclipse effects. The data presented here, while in themselves showing no striking anomalies in behavior, are necessary in delineating the marginal effects of the eclipse, and, together with data from other places, in obtaining the quantitative time and geographical gradients in ionization resulting from solar observation.

Although final data are not yet available from other stations, preliminary analysis has shown that at Washington, D.C., E-layer critical frequencies rose more slowly than usual during the morning of the eclipse; F2-layer reflections were blanketed by Es.

Preliminary reports from the five Canadian stations making observations show marked eclipse effects. Estimates of the extent of ionization density decrease are:

					E	F1	F2	F
	,				%	%	%	%
Victoria Beach, Man	é	0	0		40	55	32	40
Churchill, Man				0	000	37	34	-
Prince Rupert, B.C						***	420	>34
Ottawa, Ont.				0	30	28	27	-
St. Johns, Newfoundland	0				-	25	27	600

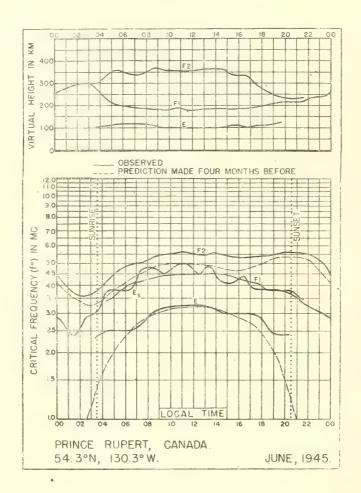
At Prince Rupert, B.C., the E layer was blanketed by Es, and the eclipse occurred before the separation of the Fl and FE layers. Maximum eclipse effects were obtained at Victoria Beach, Man. No lag in Beach Fl-layer density change was observed with respect to the maximum phase of the eclipse at any station, but a lag of 20 minutes was observed for the FT layer at Victoria Beach.

Comparatively little radio field-intensity data are yet available for this period. Preliminary reports indicate, for the time of eclipse, unusually good reception on transmission paths between Washington, D.C. and most North

Atlantic stations, and between San Francisco and London, poor reception between Washington, D.C. and Stockholm, Sweden, and normal reception between New York City and Fairbanks, Alaska, and between Boston, Massachusetts, and Mexico City, Mexico, Washington, D.C., and Chicago, Illinois.

ERRATA

1. The graphical presentation of data from Prince Rupert, Canada, for June 1945, Figs. 7 and 8, in the August issue of this report, was incomplete. Table 32 in the same issue presented complete data, The Figure below will complete the graphs.



2. Information was received that Simonstown data up to 1 August 1945 were received on 30°E meridian time. Beginning 1 August, all data from Simonstown will be reported on 15°E.

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Table 10 (Provisional data)

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u (12.0°S, 75.3°W)	for him		7.0	ಬ್ಯಾ	5 %	4.1	62	9.6	3 N) (e	9 6	200	907	7 + 3	7.30	0 0	0 0		0 /			7 0.5	6.9	6.4	9, 9	2.6	9.9	
Huansayo, Peru (12.00S, 75.30W)	म	•	700	5 . 6	5.4	4.7	03	2	9 M	9 4	9 6	200	90%	7.41	7.30	000	20 8		١, ٥	7 0		7 01	6,9	6.4	9.9		9.9	

Longth of time sweep; 16 Mc to 0.5 Mc in fifteen mimites. Median values. Fine: 75°W.

Table 11 (Provisional data)

Time: 00 Length of time sweep: Manual operation. Average values.

Lobbe 12 (frontolmed data)

Cape York, C. Australia (11.00%, 142.40%)

July 1945

July 1945

2.0B

Log

P. U

P.M.

FOF

h'F2 Time F2-M3000 8 5 4 0 0 0 4 8 8 8 6 6 6 8 8 /Be EoJ. E, q RESERERER Lio Hani, Hawaii (20.8°%, 156.5°W) P.L roll C Time

Time: 150°W Length of time sweep: 2 No to 16 No in one minute. Median values.

Average valuese Time: Local

Rerotonge I. (21.4°S, 159.6°W)

July 1945

F2-H3000

July 1945

130°0%)
(25.0°S,
H
Pitcairn

PEB												
FOR												
知って												
₹o£1				2°3	4,2	η°η	η°η	0°7				
P.L				210	210	200	200	210				
fors		202	2.5	5.7	7.08	† °9	9.9	9°9		14.3	1	200
h F2		2	290	230	250	250	250	250		250	e e) V
Time	0000	0300	0230	0000	0930	1130	1330	1530	20071	1930	2100	2300
			,									
F2-M3000	3.0	3.3	3.1	3°h	4.€	Ю. 104	7.50 1.60 1.60	3.2	3.3	3.2	3.1	3.0
fEe												
FOR					200	3.5	10	0				
						MH	רא ר	3.0				
P.Q						WW	ňm	3.0				
for Light			2.7		2.4	10 m		4.3 3.0				
			2°2				9.4					
£0F1	3.3	3.3	Z.2	14°5	7.5	55	205 4°6	4.3	Z∘7	5.1	3.9	3.5

Thme: 157.50W. Jength of time eweep: 2.0 Mc to 16.0 Mc. Manual operation. Weddan values.

Time: 127.50%. Length of time sweep: 1.0-Mc. to 13 Mc. Manual operation. Median values.

Table 15 (Provisional data)

Brisbane, Q., Australia (27.5°S, 153.0°E)

PEB

Log

H₀U

for1

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POF2

h F2

Time

F2-M3000

July 1945

Table 16 (Provisional data)

名画名 0 0 1 0 0 8 4 0 22222222 22222222 Loll Kermadec Is. (29.2°8, 177.9°W) L,q FOF Time F2-M3000 July 1945

Time: Jocal. Length of time sweep: 2.2 Mc to 12.5 Mc in two minutes, thirty seconds. Average values.

Times 180°E.

Length of time sweep; 1.8 Mc to 12.0 Mc. Manual operation. Median values.

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Table 18 (Provisional data)

July 1945	ិ ១ ១ ១ ១ ១ ១ ១ ១ ១ ១ ១ ១ ១ ១ ១ ១ ១ ១ ១			Jaly 1945	file F2-K3000		
omstown, Union of S. Africa (33.9°B, 16.7°E)	\$ ~ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Time: 15°E. Longth of time sweep: 2 Mc to 16 Mc in one minute. Average values.	Table 20 (Frovisional data)	Ohristohurch, H.Z. (43.5°8, 172.6°3)	h'To fore h'Fr for h'E for	280 224 260 224 260 224 260 224 260 224 260 224 240 240 240 240 240 240 240 240 24	That 172.5°E. Langth of time sweeps 1.0 Mc to 13 Mc. Automatic. Eddian values.
Watheroo, W. Amstralia (30.3°8, 115.9°E) July 1945 8im Fine h'F2 20F2 h'F1 20F1 h'E 50E 2Es F2-M3000 Time	22 22 23 24 25 25 26 26 26 27 28 28 28 29 20 20 20 20 20 20 20 20 20 20	Time: Local. Length of time sweep: 16 Mc to 0.5 Mc in fifteen minutes.	Table 19 (Provisional data)	Mt. Stromlo, N.S.W., Amstralia (35.3°s, 149.0°E) July 1945 O	11me h'F2 10F2 h'F1 10F1 h'B 10B 1Be F2-H3000 Time		Time: Local. Longth of time sweep; 1.6 Mc to 12.5 Mc in two minutes. Median values.

Campbell I. (52.5°S, 169.0°E)

July 1945

F2-M3000

PES

子の国

P. Q

Lol

P.L.

POF2

Time

202

Delhi, India (28.6° m, 77.2° m)

Table 22 (Provisional data)

June 1945

F2-K3000		
5		,
10		
P.Z		
Lobi		
h'n		
FOF	๑ ๙๙๙๙๙๙๙๙๓๓๑ ๙๙๙๙๙๙๙๙๓๑ ๘ ๘ ๓ ๓ ๓ ๓ ๓ ๓ ๓ ๓ ๓ ๓ ๓ ๓ ๓ ๓ ๓ ๓ ๓	
h. F2		
Time	88888444444468866888888888888888888888	

125

2°6

300

Length of time sweep; Manual operation. Average values. Time: 75°B.

Time: 165°z. Length of time sweep: 1.0 Mc to 15 Mc. Manual operation. Median values.

Table 24

(Corrections and additions to previously published provisional data)

Fairbanks, Alaska (64.90N, 147.89W)

F2-#3000

f.Be

RoJ

P. I

POFT

L. P.

Time

Washington, D.C. (39.0°N, 77.5°W)

Table 23

August 1945

July 1945

4.6 4.0 4.0 4.0 540 540 220	+	h'12	rols	r,q	Lobs	P ₁ W	a Co	179	F2-M3000
428 428 540 540 4 • 6								80	
428 428 340 340 4.6	_							5.1	
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428 428 540 540 4 • 6	_							8.8	
4.8 4.8 540 540 540 540								4.5	
428 428 540 540 540 540								4.9	
428 540 540 4.6			4 °6					3.4	
428 540 540 4.6								3.65	
428 340 340 268 4.6								30.50	
540 540 4°6		428			4.0			50.00	
540 268					4.2			3.5	
268 4 4 6 6								3.4	
268 4.6								80.00	
540 268 4.6		,						3.4	
540 268 4°6								S.2	
240 268				220	٠			3,00	
268								2,5	
268		840						S.2	
268	_							S. 65	
268	_							300	
	_		4.6					3.2	
		268						4.0	
	_							3.6	

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Time: 750W.
Longth of time sweep: 0.8 Mo to 14 Mo in two minutes.
Median values.

Length of time sweep; 16 Mo to 0.5 Mo in fifteen minutes. Median values. Time: 150°W.

. (Corrections and easitions to previouely published provisional data)

hurch	ill, Can	Churchill, Canada (58.8°N, 94.2°W)	90N, 94.	(Mo 2			-5	July 1945
Time	in #22	gon2	P. P.	LHO+	Mg El	ZoJ	£18	F2-M3000
00	290						8 0	
01	280	4.8					5.1	0%
020	280						no no	
03	270						300	
8	. 290		250	3.0			3.8	
90	320		260	3.5			3.8	
90	385		260	00	120	3.4	4.2	
. 20	400	4.8	260		120	3.82	4°0	
08	420		240	402	115	3.4	4.07	
60	420		220	404	110	50° 53	ಬ್ಯ	
10	400		210	800	110	3.3		
13	420	5,2	220	404	7.10	3,3		
12	390	5.3	210	404	110	50 to		
138	410		220	4.4	110	3.4		
14	900		220	7 6 7	3.50	3.2		
15	395		220	404	110	3,1		
16	370		220	2007	720	S. 23		
2	350		235	400	120	2.9		
18	320		240	0000	130	3.1		200
19	320		255	3.5	120	2 08	3.2	
20	300		280	3.4	130	3.0	4.2	*
23	300						4.0	
22	290	4.4					D 63	
23	285						9,5	

Time; 90°0%. Iongth of time sweep; 2 Mo to 16 Mo in one minute. Medien velues.

(Corrections of previously published provisional data) Table 27

July 1945 Victoria Beach, Canada (50.9°N, 96.5°W)

3.5	L, u	Lar	, u	る。	64 80	F2-M3000
65 65 - 44 73				-		
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A. 53						

Time, 90°%. Median values. Data from 5 July to 1 Mag. 1945.

(Corrections and additions to previously published provisional data)

Table 26

TES F2-43000	4,00	2.5		3.0	O. S.	3.0	3.1	3,2	4°0	4.0	4.1	000	4.7	3.8	3.9	3.8	4.0	3.2	3,1	3.7	8.8	3.2	4°0	5.6
Hol							2.04	2002	200	200	2.9	3.2	3.0	3.1	5.7	8.0	80	8.9	2.7	2°2	2°4			
P.B.							115	110	105	100	100	100	100	100	100	100	100	100	105	110	110			
Loll						S	3.4	3.7	4°0	4.1	4.02	4.3	4.4	4.4	404	404	A . S.	4 0 CS	4.0	3.0	3.5	3,82	3.4	
L,q						220	200	190	180	180	180	170	180	180	185	185	190	190	195	205	210	220		220
FOF2																								
h'F2	250	280	280	300	290	260	370	370	370	370	365	345	345	350	340	360	340	320	305	280	250	230	240	245
Time	00	0.1	02	03	8	8	90	0.0	80	60	30	11	12	10	14	16	1.6	17	18	13	20	21	22	23
	fore hir for his for fish	hire rows hir rows ras	hife for hift for him for fish 25.0 5.4 5.2 280	10.11 10.11 10.11 11.12 10.11 12.13 10.13 12.13	10 12 10 12 10 12 10 12 10 12 12 12 12 12 12 12 12 12 12 12 12 12	h 第2	h	250 280 280 280 280 280 280 280 280 280 28	h	h \frac{F2}{F2} \frac{F0T2}{F2} \frac{h\frac{FT}{F2}}{F2} \frac{F0T}{F2}	h	h	h\\\ \frac{12}{12} \ \frac{1}{12} \	h	h/F2	h/172	h	h/122 f012 h/12 f013 h/13 f023 f250	h/172 for h/17 for h/18 for for	10 12 10 12 10 12 12 12	N.	M.	1/1 2	N. 122 TOT TOT N. 13 TOM TOM TOM

Time; 1200W. Length of time sweep; Mannal operation. Median values.

July 1945 (Corrections and additions to previously published provisional data) St. John's, Newfoundland (47.70N, 52.70W) Table 23

£26 №2-35000			808		2.6	2.7	3.4	8,8	4.0	80.4	3.7		4.4	3,1					- 0	- 0	3.0	- 0	
国OJ					1.8	1,08	200	2002	S . S	3,0	3.2	53.00	3,3	دره ده	S . S	3.2	3°1	88	20,02	2.7	1,6		
P, K					110	110	100	100	100	100	100	100	100	100	100	100	100	110	100	100	115		
Lagar					- &	- 0	- 0	- 0	- 0		- 0	-0	- 0	- 0	4.6	- 0	- 0	- 0	- 0	- 6	- 0		
h 371	-				230	200	200	190	190	190	185	190	185	180	180	195	190	190	200	210	220		
5401	A .		8000	50,000	40		4.5	A 0.8			- 9	5.4								6,53			
h. 182	240	240	250	250	280	230	240	270	280	325	300	230	530	350	330	320	310	290	270	240	230	220	220
Time	8	10	03	03	8	8	90	0.7	88	60	10	11	12	13	14	15	16	17	18	67	20	21	223

Time: 52.50W. Length of time sweep, Manual operation.

(Corrections and additions to previously published provisional data)

						•							
Ottawa	Ottawa, Canada (45.5°N, 75.8°W)	(45°5°N	75°8°W	_				July 1945	Boston	Massack	msetts	Boston, Massachusetts (42,4°N, 71,2°W)	71,20W)
Time	h'F2	\$0\$5	h Pr	£o.k.	Post u	子の原	全国日	#2-M3000	Pine	h'F2	Pole	h'Fl	Loll
00	280								8	265			
01	295						208		01	278			
02	290						200		05	275			
03	•300						2,8		03	270	2.7		
8	280						3.0		8	250	2.7	252	2.7
8	250						2.9		88	290	3.7	250	3.4
90	240		215	3,3	120	2°4	3,5		90	340		230	3.6
07	365	4.6	210	4°0	120	2°2	4.6		0.7	350		230	4.0
80	350	5.1	210	4.2	110	3,0	5.0	3.0	80	350		238	4.3
60	370	5.3	200	4.4	110	3,2	5.1		60	370		230	4.5
10	345	5°4	200	4.6	110	3,3	500		10	375		220	4.5
11	375	5°5	200	4.7	110	3.3.	5 3		11	380		220	4.6
75	380	5 04	190	407	110	3.2	5.2		12	408		215	4.6
13	375	5°6	200	407	110	3.2	4.3		13	380	5 %	215	4.5
14	370	5.6	200	4.6	110	3.4	4.9		14	380		230	4.5
15	360		200	4.5	110	3.2	4,3		372	360	5 B	225	4 04
16	350		210	4.3	110	3.1	4.0		16	350		2.38	4 °2
17	330		220	4.1	120	2,9			17	320		230	3.9
18	300		220	3.7	120	2°2			18	290		240	3.4
19	260		235	3,2			3.0		19	250			
20	250								20	250			
21	250								21	250			
22	260								22	252			
23	280								20	265			

Time: 760W. Length of time sweep; 1.93 Mc to 13.5 Mc. Menual operation. Median walues.

(Additions to previously published provisional data)

San Francisco, Calif. (37.4°N, 122.2°W)

July 1945

F2-M3000																									
file		3,5	3.4	3.7	3.5	3.4		3,0	4.2	4.3	4.3	4 04	4.3	404	4 °3	4.4	4 02	4.0	0	ಬ್ಯಾ	. 0	g	- 0	. 0	
Eo語								2.3	900	- 0	3°5		- 0	3.4	3.4	3.4	3,3	3.1	88	204					
P ₀ U		,						110		110	110	110	110	110	110	110	110	110	110	110	310				
POF.								٥	800	- 0	- 0	9			- 0	0	- 0	0	- 0	- 6	- 0				
hPI								230	220	205	200	200	200	190	200	200	210	220	220	230	236				
£oB2																									
h*F2	000	260	270	270	260	260	260	245	350	370	260	355	360	380	390	270	360	345	840	300	250	230	230	250	260
Time.		00	07	05	03	8	05	. 90	. 20	80	60	20	11	12	13	14	15	16	17	38	13	50	21	22	23

Time: 1200W.
Langth of time sweep; 0.8 Mc to 12 Mc in six mimites. Record centered on the hour. Median values.

July 1945

(Corrections and additions to proviously published provisional data)

Table 30

								and the same of th
Тапе	h'F2	rolls	L.q.	Loll	P P	表の基	£E8	F2-M3000
8	265						200	
010	278						3.0	
05	275						207	
03	270	2.7					207	
8	250	2.7	252	0	118		1.6	
9	290	3.7	250	0	125	1,3	1°3	
90	340		230	3.6	120	2°2	2 6	
0.7	350		230	9	120	2.7	3.0	
90	350		238	- 0	120	2°8	3.9	
60	370		230		120	203	407	
10	375		220		115		4 º 1	
11	380		220	- 0	115		4 0.2	
12	408		215		115			
13	380	5 °6	215		120		3,1	
14	330		230	. 0	120			
12	360	5 °8	225	- 0	120	200		
16	350		2.38		120			
17	320		230	- 0	120			
18	290		240		125	2.1		
19	250				140		3,0	
20	250						3.2	
21	250						2°6	
22	252						2 %	
20	265						2°2	

Time: 750W. Median values.

(Corrections and additions to previously published provisional data) July 1945 Baton Rouge, Louisiana (30.50N, 91.20W)

	The second name of the local division in which the local division in the local division	9 - 7	70.77	707	0	TAR	198	ac serong
00	00	4.4					000	
3 6	200	4 9					2.0	
3 8	000						200	
03	290							6°2
8	300							
90	290	3.4						
90	290	4.5	250	3,3	130	2.3		
07	350	5,3	240	63	130	2 °5	300	
80	380	5 5	240	4°5	120	200	4.0	
60	400	5.7	240	4.4	120	3°1		
jo	395		225	4 05	120	3,2		
11	390	6.1	220	4.6	120	303		
12	400	6,2	230	4.6	120	80		
13	400	6.5	240	4.6	120	3,3		
14	380		240	4.6	120	3.3		
15	365		240	4.5	120	3,3		
16	350		240	4.3	120	3.0		
17	080		250	4.1	130	2°2		
18	300		250	3.4	130	2°1		
13	270						3,1	
20	250						204	
23	260	5,1					3°5	
22	280						3°6	
6	200						3.0	

Time, 900W.
Length of time eweep; 1.9 Mc to 9.8 Mc in three mimites, thirty seconds.
Median values.

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5
63
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P.L.

roll2

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Time

Table 33

San Juan, Puerto Rico (18.4°N, 66.1°W)

	اوا																								
July 1946	F2-4700		5.1	ed .	3.1	63 63	3.4	S. A.	3.1	200					2°4	2.4	2 .5		2.6	2.7			2.7	2.8	3.0
5	:73	2°8	200	2.1	2.1	2.1	2.1	2.1	8.1	₽°9	6.3	7.4	7.5	7.5	7.5	7.7	7.5	7.5	0.9	3.6	3.4	3.2	80	2.7	2.7
	e.													ဗ္ဗ											
٠	P.B																								
	Loj																								
7.3°W)	L,q																								
т ′Мо6•	Zoj.																								
Christmas I. (1.9°N, 157.5°W)	h'72																								
Christa	Тіпе	. 8	10	020	03	8	8	8	0.0	80	60	10	11	21	13	14	12	16	17	18	39	20	21	22	223
July 1945	F2-H3000	c	200	70 I	S.I.	000	0.0	000	ra Sol	200	000	o 1	1.02	1.07	Z 0.7	ත _ු	න ව	00 e	00	ත _ු .	rd (3.1	0 %	00	on c

4°0

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40000----

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Length of time sweep; 2.7 Mo to 14 Me in six minutes. Record centered on the hour. Median values. Time , 600W.

Length of time sweep; 1.6 Mc to 12.5 Me in two minutes. Median values.

Time: 150°W.

Table 56

Table 35

July 1946 Huancayo, Peru (12.0°S, 75.3°W)

F2-M3000

f.Bs

P.E LOE

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LI, U

FOF2

h172

Time

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ublished pr		To.					0	0	0	2	0	0	0	0	0	0	Q	Q	Q	5 P				
(Corrections and additions to previously published provisional data)	(M ₀ 9°89)	for I P					18	14	11	תו	10	10	10	10	101	10	10	01	01	105	3.6 17			
tions to	Baffin Island, Canada (70.5°N, 68.6°W)	P.L				235											225							
and add14	, Canada	Lol[5		4.6				4.4									5.0	4°9						
otions	Island	h'T2					,				430		415											
(Corre	Baffin	Time	8	01	05	03	8	05	90	07	90	60	30	11	12	13	14	15	16	17	10	20	. 12	22

220 220 210 210 210 210 210 210

0.00 0.00

Time; 750W. Length of time sweep; 2 Ms to 16 Ms in one mimite. Median values.

Time, 75W.* Length of time sweep; 16 Mo to 0.5 Mo in fifteen mimates. Median values.

June 1946

FORT PART SALL

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4.3 5.0 0 2 2 2

5.8

Burghead, Scotland (57,70K, 3,50W)

(Corrections of previously published provisional data). (Corrections and additions to previously published provisional data)

1945	
Jone	
(Mo L	
64.1°N, 21.	
Jeeland (6	
rkjavik,	

Mario .	1,3,50	2.30.3	11000	PONI	No No	EQ.	1200	F2-M3000
- M. Maria	True.							
00	,					ì	8.8	Ũ
(6)							3.4	3
02	-Dr.w						3.6	2.9
500	265						3,6	3.0
Š	225		0	J			3,2	3.0
8	~~~		215					
03	wC170	4.5						
20	300	4.9.		400				3.1
00	200.3=				32			300
60	670	5,0			30	000		300
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Time; 150W. Inagch of time sweep; 2 We to 16 Me in one mirate.

Table 39

Slough, England (51.50N, 0.60W)

8

June 1945

F2-W30																									
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FoJ																									
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Times 00. Length of time sweep: 0.5 Mc to 16 Mc in frar mimites. Median values.

Table 40

Time: 09 Median values.

6.00

(Corrections and additions 'to previously published provisional data) St. John's, Newfoundland (47.70%, 52.70%)

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	330		190	4.6	100	3.5	4 08	
12	330		190	A 07	100	303	5.0	
133	320		130	4.7	300	3.2	400	
14	320		185	808	100	ಬಂಬ	5.0	
12	310		190	405	3,00	300	80 B	
16	300		190	404	100	300	404	
17	280		196	会の子	300	8.9	600	
18	260		200	200	100	202	208	
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23	230						S S	

Time; 52.5 CW. Longth of time sweep; Manual operation. Median values.

olomb	o, Ceylo	Colombo, Ceylon (6.6°N, 80°E)	, 80°E)					firme 1945	Christatohn
								OEAT STAN	
Time	1,35	£olf2	h'n	Lagar	P,E	Log	fEs	F2-#3000	Time
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20		8						స్తార	20
21		7.6						8.6	21
22	(None)	6.5							22

Time: Local
Length of time sweep: 2 Mc to 16 Mc in one minute.
Median values.

Table 43

(Corrections and additions to previously published provisional data)

May 1945	F2-M3000
	fBo
	No.
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68°6°W)	Lol.
(70.5°N, 68	P.L.
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	21								,
	22	260							

Time: 75°W.
Length of time sweep: 2 Ms to 16 Mc in one minute.
Median values.

Table 42

June 1945 tions and additions to previously published provisional data) urch, N.Z. (43.50S, 172.60E)

12-M3000																								
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Time: 172.50g.
Length of time sweep; 1.0 kg to 13 Mc. Automatic.
Median values.

(Corrections and additions to previously published provisional data)

Reykjavik, Iceland (64.10N, 21.70M)

May 1946

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Time: 15°W. Lorgth of time sweep; 2 Mc to 16 Mc in one minute. Median values.

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Times 0° Eargth of time sweeps Merual operation. Median values.

(Corrections and additions to previously published provisional data) Simonstorn, Union of S. Africa (33.90S, 18.70E) The Man

May 1945

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Longth of time sweep; 2 Me to 16 Me in one minute. Median values.

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Longth of time sweep; 2 No to 16 Me in one minute.

(Corrections and additions to previously published provisional data) April 1945 16, 19 35 Baffin I. (70.5°N, 68.6°N)

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First 75 Cut. Length of time sweep; 2 Mo to 16 Mc in one minutes, Median values.

Table 49

data)	1945
(Corrections and additions to previously published provisional data)	March 1945
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previous ly	.6°W)
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add 1tt ons	Reffin T. Canada (70.50N. 68.60W)
and	anada
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(Correc	Reffin

Table 50

I., (Canada (Baffin I., Canada (70.5°N, 68.6°W)	₩09*88				Mar	March 1945	Trinio	lad, Bri	Trinidad, Brit. West Indies (10.6°N, 61.2°W)	Indies (1	.0.60N	61.2°W)		- 1	Merch 1945
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Time: 75 0W. Length of time sweep: 2 Mc to 16 Mc in one mimute. Median values.

Time; 60^{0} W.
Largth of time sweep; 2 Mo to 16 Mo in one minute. Median values.

IONOSPHERE DATA- I

Ionosphere Station

Standards

National Bureau Of

Washington, D.C.

Hourly values of PE in the for AUGUST (Month)

Records measured by: J. M.C. R.L.S. 1 19 57

JONOSPHERE DATA-2

Tonosphere Station.

Washington, D.C.

Records measured by: J. M. C. R.L.S. Bourly values of to Fe in the for August 1945 TIME: 75° W MERIDIAN National Bureau Of Standards (Institution)

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Hourly values of hF in the for August (Month)

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Records measured by: J. M.C.

23 22 R.L.S. 21 20 19 (3.5) (3.5) (3.5) (3.5) 4.1 [3.7] 3.5 3.5 (3.5) (3.5) 3.5 (3.4) (35) 5 (3.5) 6.0 (3.5) 30 3.5 1.6 Ġ 13.8K 40 (38) 3.8 40 4.0 (1/4) 72 1.4 (3.8) 3.9 39 (4.0) (1.4) 3.9 3.5 4.0 1.4 4.0 3.6 30 3.7 3.5 3.6 3.9] 3.00 17 0 0 T 14070 43 [43]A 7.4 42 43 4.5 45 (42) 14 07 7 43 44 4.3 4.3 4.2 44 40 * 40 44 17 1 2 40 1. 4.0 40 1 43 0 16 [4.3]A 4.04 4.4 45 7.2 4.2 42 43 45 4.4 47 4.9 4.3 45 44 4.6 44 ++ 43 4.3 73 77 47 4.7 74 4 42 44 7 15 力力 [47]A [43]A 4.5 (42)# 4.67 [45] 42 45 40 76 4.6 ti 47 4.7 4.9 4.7 4.5 (43) 7.60 4.6 45 45 4.7 4.6 4.2 43 4.3 43 71 4.6 7.4 4.8 H 4 9 H 48 × 4.0 45 H [45]C 4.6 (46) (8 +) (43) (++) 9 4 4.7 4.5 4.6 4.5 4.5 4.3 + + 7.4 4.7 4.5 4.4 1. 4 4.00 4.5 77 4.7 A to to 43 H (45)A (9+) 474 4.61 4.6 (4.7) (4.4) 1. 5 4.7 4.5 45 47 4.5 64 4.5 4.5 4.5 4.8 4.7 4.00 4.80 4.6 4.6 4.5 4.5 77 1. 1. 4.3 12 V 47H [43]A [43] (44) (4.6)# (4.9) 4.5 4.5 (4.5) 4.5 4.6 (45) (44) 4.7 4.6 4.3 4.2 4.5 45 45 45 4.7 4.7 46 4.7 45 4.2 43 4.5 4.7 4.3 4.5 4.7 1.1 45 4.4.4 4.4 45 (74) [45]c[4.7]c 4.6 [45]0 43 (43) 44 4.6 4.6 4.4 43 (4.3) 42 45 4.5 4.3 4.6 4.4 (4.5) 4.7 42 4.3 43 4.5 43 43 43 10. 43 4.34 (++) (74) 14.5 4.5 4.02 4.3 (43) 4.3 45 to t. 4.5 4.5 4.4 4.0 4.2 4.0 4.5 4.3 44 4.2 42 4.2 7 4.3 4.3 1 1 4.3 1.7 8 140JA 17 V[04] [43] [4.3]A 5/047 [4 11c (40) [3.7]c (42) 43 11.3 TIME: 75° W MERIDIAN 3.9 4.0 43 40 4.1 4.1 4.0 (4.0) 3.9 [38] 4.0 4.3 4.3 1 4 1:4 40 1.4 1:1 1/ 3.7 08 3.75 3.9]A (35)# (3.8) 90 (04) (4.0) (3.6) (3.5) 4.0 00 (04) (3.7) 3.7 3.80 (3.5) 3.9 3.5 (3.5) 36 39 3.5 04 20 5.9 33 0 0 07 T 90 90 है 60 03 03 (Institution) 00 Median 7-15 56 78 5 20 21 22 23 45 27 30 S III 4 9 00 6 10 7 14 16 7 25 28 29 F Day 12 73

IONOSPHERE DATA-6

Ionosphere Station

Washington, D.C.

National Duredu Oi Standards	5											22.0	1	大学の子門	-	7		2	vecucine measured by: J. M. C.				
(Institution)				E	TIME: 75°		/ MEF	W MERIDIAN	7			None		(Month)	Ê						R.L.S.		
Day 00	10	90	03	ま	0.5	90	07	90	8	10	11	12	13	17.	15	16	17	22	139	30	23	25	23
-			The state of the s	The state of the s		0//	011 0	0// 0	110	011	110	011	[110]	011	110	110	110	120					
2						110	011 0	011 0	1/0	011	[110]c	011.	110	110	110	110	1107	120	140				
le.						120	0 /20	011 0	//0	0//	0//	011	110	110	110	110	110	120					
1						120	0 120	011 6	110	100	110	011	2/1012	110	110	110	110	110	120				
r,				*		120	0// 0	120	110	110	110	110	110	100	011	110	110	0//	110				
9						0//	0//	110	110	110	110	011	110	110	110	100	100	011					
7						120	01/ 0	120	110	110	110	110	0//	011	01/	120	110	110.	120				
- 80						1/0	011 0	110	110	110	110	011	011	001	110	100	110	120					
6						110	110	110	//0	110	110	100	110	110	110	110	011	011					
30						120	011 0	011	110	W0//	001 4	011	0//	120	00/	110	110	110				/	
*11						110	011	0// 0	011	110	110	110	100	100	110	011	011	120					
12						0//	110	110	011	110	011	110	110	110	110	011	120	011					
13						0//	100	011	001	100	100	011	011	100	100	110	011	011					
34						110	0// 0	110	00/ 0	110	110	110	011	110	011	110	[110]	120					
15						110	0/1 0	110	100	110	011	110	110	110	110	011	110	120					
16						110	0// 0	0//	0//	110	110	110	(110)	110	110	110	(011)	120					
17						130	0 120	0// (110	110	110	110	100	120	110	[110]3	011				,		
100						0//	0// 0	110	_	[110] 6 [110]	0110	100	011	110	110	100	110	120					
19						120	011 0	011 .0	100	110	100	110	0//	110	110	110	00/	100					
20						120	0// 0	011 0	011	110	100	100	4//	011	110	110	110	0//					
21						120	0// 0	011	0// 0	110	100	110	100	011	011	110	0//	110					
22						110	0// 0	0/// 6	011	110	120	110	120	011	011	110	0//	100					
23						110	0 120	0// 0	110	110	110	110	110	110	110	100	120	120					
24						120	0 120	0 120	120	120	110	110	110	110	120	120	110	110					
25						120	0// 0	120	120	110	120	100	1001	100	100	120	110	100					
26						110	0 /20	0// 0	120	120	110	110	110	110	110	110	120	120					
27							120	5[01/]	011 2	110	110	110	110	110	110	110	120	120					
200						120	0 1,20	0// 0	120	110	110	110	110	110	110	110	110	110					
29						120	0 /20	011 0	120	110	110	110	011	011	130	110	120	120					
30						130	02/ 0	0110	0//	110	110	110	120	011	110	110	120	120					
31			The Control of the Co			100	00/ 0	0 [110]9	10 120	110	120	0//	011	01/	110	011	120	120					
Seam								_															
																			-				

^{*} Median obtained from four values or less.

IONOSPHERE DATA-7

Tonosphere Station

National Bureau Of Standards

Washington, D.C.

12 Hour? y values of to in to for August

Records messured by: J.M.C.

(Institution)	tution)	Cont. Sanction Call Control	The section of the se	the second plants and	F	TIME: 750	ROIA	MACE	W MEDISON		10 approx 1::100:	200		IOI	(Nonth)	onth)	1		neco.	FOR BEER	insea o	R.L.S.	· 10	
The state of the s			7.0	- VEG- 102			3	ME	T C	-	and the second second second second	The same of the sa												
Day	00	0.1	02	03	Col.	05	90		1 08	5	30	3.1	15	23	# 1	15	16	17	16	19	80	21	25	23
~							7	(30)	4	A	(35)	5) (3.4)	(3.4)	(3.4)	(3.4)	[34]4	(33)	3.2	(2.40)					
C)					AE-7-2		2.	(2.6)	A	(L)	A	0)	V	(3.5)	(3.5)	(3.4)	ગ	0	(25)	0				
r							0.2	2)5	200 E	N.	V	A	V.	<	A	A	A	[30] A	2.3					
#							000	5](6 (28)	(3.3)	3) (34)	<	A	A	0	A	A	A	(32)	2.5F	A				
Ľ					er-acido		200	.3)F. A.	0	(3)	5) (3.5)	(34)	(3.5)	,	(34)	3.5	[33]A	1 1	V	V				
9					-		T	(2.9)	()	4	K	B	(3.5)	B	₹	₹	A	4	(3.6)					
_					FCE .		(2.1)	(2.9)	1.3.4	A A	A	(35)	(35)	(3.5)	3.5	[3.5]A	(3.4)	(3.3)	[2.7]8	(1.7)				
110					L TROI		(2.3))* (5.0)	(3%)	4.51 (3.4	1A (3.5)) (3.6,	3.6	3.5	3.5	(3.4)	[33] 8	(3.2)	[2.5]A	A				
6					ww		<	-	4	et.	[3.5]	JA [3.5]	1A 3.6	3.5	[3.5]A	(3.5)	[3.4]A	3.2	(2.5)					
10					200		1.3 4	(4.7) F	1 [3.3]A	3.4 3.4	3.4 H	H A	A	T	[3.5]A	(3.4)	3.4	(32)	(2.C)					
n						1	(3.1)	V	~	<	0)		Y	¥	A	A	[3.4]A	[3.2]B						
72					-10ROW		A		A	A	V	V	A	A	(3.6)	(3.5)	(3.4)	3.3	(2.6)F					
13					79,000		~	A	V	V	A	7.6	V	₹	3.5	3.5	A	X	2.7					
376					THE PARTY NAMED IN		(3.3)	()	0		A	7	3	.,)	[34]A	(3.4)	9	J	AF					
15					O LIPSON	 	V	*	A	[3.4]A	JA (3.4)		A (3.5)	(3.6)		(3.4)	(3.4)	(3.3)	A					
16							A	2.5	[3.3]A	5]A A.	A	3.6	A	∢	A	[3.4]A	(3.4)	3.3	A					
17							(2.2)	(2.8)	LT INGO	K	A	A	(3.5)	B	A	A	B	O						
38					OMOTO F.		V.	A	T	0	0	(3.6)	(3.6)	(3.5)	(3.5)	(3.4)	(3.4) [3.4]A[3.1]A	[3.1]A	2.5					
19					-		A	(26)F)F A	Y	(3.5)	(35)	(3.5)	(3.5)	-	(3.4) [3.4]4 (3.4)	(3.4)	3.0	A					
82					anne salat		K	₹	4	(3.4)		[3.4]A[3.5]A	14 3.5	(3.5)	A (A	(3.3)	(3.0)	(2.4)					
21					WEST SHALL		(22	2) (2.9)")= (33)	3) A	×	K	B	V	(3.5)	4	A	¥	¥					
22					Sear to dec		V	U	(3.2.)	2.) [3.3]A	JA A	A	A	0	0	(3.4)	3.3	[3.0]A	(2.3)					
23					c - x 200		(1.9)	()	A.	A	A	(3.5)) (3.5)	[3.5]	[3.5]A [3.5]A [3.4]A	[34]A	3.3	(2.8)	2.1					
45					CONTEN		1	4	V	A	A	A	(3.5)	3.4	A	A	A	A	А	b				
25							V	A	[3.0]A	JA A	A	A .	A	Ą	(3.4)	(3.4)	3.4	[3.0]	(2.2)					
36							A	3.5	R.	2 (3.4)	9 A	A	(3.5)) [34]A	(3.4)	(3.4)	9.3	(2.9)	A					
27					Photocountry		0	0	0		1) A	A	A	A	(3.4)	6.0	3.2	(2.9)	(2.1)					
28							A	(2.6)	_	3.1]A[3.4]A	JA 3.3	(3.3)	(3.4)	(3.4)	(3.3)	3.3	3.1	(2.7)	¥					
29					M/TORNEY.		1.9	1.9F [2.3]A	14 (2.9)	9) [32]8	JB 3.4	(3.4)	(3.4)) 3.4	(3.4)	3.	3.53	(2.7)	¥					
30					yang pada		(1.9)	(2.6)	;) [3.0]A	1 (3.3)	6	5 3.5	3.5	3.5	[3.4]A	(3.4)	(3.2)	(8.8)	A					
33	0.000		Standard Comment			1000	A	A	0	A	A	[3.5]	1A 3.5	3.6	[3.5]	B (3.4)	3.3	2.8	(2.3)F					
Seuth													Marie Challe	_										
Median					margae		2.5	.2 2.	8.8	w	4 3.5	5 3.5	3.5	3.5	e)	3.4	3.00	3.0	2.5	*(1.1)				
		The second secon									and an included the same													

^{*} Median obtained from four values or less.

ONOSPHERE DATA-

Tonosphere Station

Standards

Of

Bureau

National

Washington, D.C.

Hourly values of Es in the for Audust

15 10

by: J. M. G. R. L. S. Records measured

12.7100 2.7/10 2.7/10 4-2,00 41 110 34/10 (5.8) 110 (43),20 4.0,20 4.1/00 5.3/10 3.4/10 38 100 25,3025,10 2.7 10111.4 35,20 2.8/10 36110 27/10 011/4 42/20 47/10 5.3/10 3.9/10 #6/10 3.3 110 25/20 26/00 9.0 22 3.4/10 3.8 110 26/20 0119.4 1011/10 011 4.4 6.0 110 34/00 4.7,20 2.7,00 3.4/20 3.4/20 3.3/10 34 21 3.8/20 5.5 110 3.4/10 66 110 3.3 110 3.3/10 28 100 33110 4.5110 7.0/10 27 110 3.2/10 45,10 4.6110 3.3,00 5.2,110 26/20 2.8/20 3.0/20 40110 34,00 34,20 (3.0),20 2.7,20 34110 3.9,20 3.7,10 2.6,20 3.3,10 3.3 S 3.2/10 4.5/10 4.0/00 3.3/10 3.0/20 3.7/10 34,00 3.2,00 2.8/20 01104 33/20 3.6/10 5.2/10 3.9/20 3.9/20 3.4110 2.8 100 2.7110 3.3/10 3.7/00 37/20 3.3/20 4.4/10 6.5/20 35,20 43/10 3.4/00 3.4/10 2.7/10 3.1/10 3.3 19 33/20 7.8/10 4.2110 4.0/10 34110 4.4,20 26/10 52/10 34/10 33/10 34/20 29,50 24,20 4.3/10 3.6/20 3.1/10 3.4/10 3.5/30 3.5/10 120 37,20 2.8 110 3.3 38 3.5/10 49,20 3.4/10 00/2.9 3.9,00 3.9/10 52/2034120 3.4/10 39/20 4.2,20 4.2,20 110 4.3/10 3.8/10 4.1,00 3.9,110 35/10 33/20 011 4.1 110 4 110 (35)/20 3.4/10 33/1031/20 39,2026110 011 3 110 3.8 40/20 38 6.0/00 5.7 110 3.9/10 150 3.7 16 Ø 4.2 30 50 3.9/10 3.8/10 0110# 4.3/10 35/10 10/10 4.0/20 (4.7)100 011(5 #) (3.6)/20 4.1/10 4.0 34/00(3.8),20 4.7,00 5.1,00 #4,10 4.7,00 4.7,00 (4.3),00 (4.7),10 4.2,100 36,30 5.2,40 100 5.3,00 64,00 5.3,10 3.5/20 (4.2),20 4.4,10 (42)10 4.2/10 (6.5)110 6.5/10 4.3/10 42/10 41/10 36/10 4100 42120 42110 39120 40/10 3.5/10 U 5.3 4:0110 7.5 110 (#2)/30 4.2,100 011/11 01140 62110 5.2110 4.4 110 4.2,110 4.6,110 4.3,20 4.4/20 3.9/20 4-2,20 43/10 4.2/10 36,20(35)110 36/10 3.6/20 (3.7)110 3.7/10 4.0 큐 4.1/00/ 14.7 110 50110 42/10/3 101104 4.1/20 3.9 110 110 40/20 01104 42/20 4.2/20 4.7 100 5.2 1 01104 3.8 110 (3.6)110 4.6/10 75 110 5.2/10 3.7/20 00/ 248/10 54/00 52/10 5.7/10 110 100 42/30 4.2 120 75 41,30 5.2/10 42110 01109 4.2 110 0#1 140 011 7.4 4.3 100 00104 30110 011 8.7 4.7/10 45/10 60/10 5.8 110 4.2 110 5.0 110 5.1 110 0116.4 # 4/20 4.2/10 47110 4.2110 4.2 110 5.6 110 6.3,00 (3.5)110 4.2,110 4.1 100 4.2 110 4.2 100 4.2 110 011 4.0 011 H 3.6 4.5 110 0112.4 4.1 110 5.2 110 4.0110 3.5 110 4.1,20 00/ 110 4.7 110 6.0,00 10 (4.5)110 011 110 5.6 110 50/10 5.9 110 4.2/10 24/10 4.3 110 39,00 4.2/10 47110 0110-4 36/10 4.2/00 4.3 100 4.1 110 39,110 (38),110 4.7 U 8 58 110 4 011(8.9) 4.7/10 4 10110+ 10110+ 51110 101104 4.8 110 3.5/10 5.7110 5.7/10 38120 5.6,00 7.4100 4.1110 4.140 4.6/10 5.1 110 0110+ 5.3/10 4.3 75° W MERIDIAN 90 0110# 37,20 3.7/10 34110 7.6110 5.3 110 4.0 110 734,00 29110 58110 59100 2.9/10 3.4/20 2.8 110 2.9 110 2.9 110 4.0 110 34,20 3.5/10 4.0/10 27,00 (38),10 59,20 28/10 4.3/20 9 (2.5)10 2.7,00 4.0,20 3.8 110 2.8,00 35,110 (3.9)110 33/10 3.0/20 07 2.7/20 3.8 110 35 2.8/20 47 100 011 1.4 2.8/10 4.3/10 3.4/10 3.9 110 00/1.4 3.6/20 100 5 90 3 4.0/00 2.9110 (4.5)110 (2.1)/10 2.8/10 3.3 110 2.0/00 0110+ 2.7 100 1.6/20 2.7/10 2.6/20 110 100 2.6/10 3.4 110 34110 ~ 90 ġ TIME 2.7 2.9 110 100/30/ 3.3 100 2.7/10 3.4/10 58 100 2.8 110 4.4 2.7/10 2.7 110 27/10 28 110 26/00 45/10 33/20 100 U ま 3.5 34,00 3.3 110 (2.3),20 4.9100 2.8 110 2.6100 2.8/00 25 110 3.3,00 3.4,00 011 2.7 10 3.5,00 2.8,00 3.0,10 3.5,10 011 120 03 4.6 1.4/20 2.8 4.8 35 2.7 110 (56/20 3.1/00 34/10 0118.4 2.7/00 2.6/00 2.7 100 3.4 110 2.5 110 3.4 110 27/10 5.0/10 00/0.4 120 110 120 120 2.7 02 00 4. 4.0/00 4.0,20 (3.5)/10 3.6/10 2.7/10 0// 100 120 100 10/ 100 011 100 110 2.7 120 011 100 4.1/10 3.6/10 110 26. 110 3.4 41,00 2.7 6.0 ď. 0 3.4 100 2.8 2.7 2.7 2.7 100/ 1.0/20 001,.4 3.3 /10 3.4/10 2.4/20 2.6,00 2.7/10 34,10 110 100 100 0// 110 110 00 (Institution) 4 00 4.0 00 3.00 0 2.9 Median 30 21 37 6 = 13 22 23 77 25 36 28 50 20 9 7 135 16 17 100 Day 7 34

DATA-9 ONOSPHERE

Tonosphere Station

Standards

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Bureau

National

(Looation)

Washington, D.C.

Bourly values of F2-MISOOror August (Bonth)

Records measured by

(2.3)F (2.1)F (2.0) (2.3) (1.8)F (2.2)F (2.2)F (2.3) 2.0 (8.1) 2.0 (1.9) 2.0 2.0 (2.1) (2.1) 2.1 S (2.0)F (2.3) (3.3) 7.7 2.0 2.0 2.2 (6.1) (6.1) (22) 7.2 7.7 (2.1) 3 3 2.1 25 U U U 3 J.M.C. R.L.S. (1.9)F (7.7) (2.0) (3.0) (22) 2.1 (2.1)F (2.4)F (2.1) (2.2) 2.0 2.1 30 2.1 8.0 2.0 2.0 2.1 2.2 1.9 20 2.2 2.1 6:1 2.2 8.2 1.70 1.00 Ü 63 T (3.0) (2.2) (2.2) (2.2) (2.3) (2.2) (2.2) (4.4) (2.3) (2.0) (2.4) 2.0 (7.1) 2.0 2.1 8 2.2 2.2 2.0 3 3 2.2 30 × U J K (2.2) (2.2.) (2.2) (2.3) (2.2) (2.2) (2.2) (2.3) (2.4) (2.1) (2.2) 2.1 2.1 7.8 2.1 8.3 1.70 20 2.2 22 33 3.1 22 1.9 2.1 2.2 2.2 22 19 (2.1) (2.2) (2.1) (2.2) (2.3) 2.1 (2.2) 3 7.8 1.9 7. 7.7 2.1 2.1 23 2.0 2.1 80 2.1 2.2 2.1 33 2.2 2.1 32 2.2 7 6 22 2,2 S 56 8 (2.1) (3.1) (2.0) (2.1) (2.1) (2.1) 2.1 2.0 2.3 2.1 8.0 2.0 2.1 2.1 2.2 7.6 1.8 2.1 2.1 7.6 2.1 2.2 2.1 2.1 2.2 22 2.2 22 1.8 U 37 J S (2.1) (2.2) 2.0 (2.3) 2.0 (2.2) 0.8 2.2 2.2 1945 2.0 2.1 2.1 1.8 8.0 2.0 3.0 2.0 6 0.08 2.0 80 2.1 2.0 2.0 2.2 2.2 6.1 2.2 2.2 6.1 36 U U (2.1) (2.3) 6.1 (2.1) 2.5 2.0 2.2 2.0 2.0 2.0 2.2 2.0 (2.1) (2.1) 2.0 2.1 2.0 2.0 2.0 2.0 2.0 1.9 0.00 2.1 6.1 1.9 2.0 2.1 1.9 35 0 1.9 2.1 (7.7) (2.1) (1.7) (2.0) 00 20.0 (2.1) (1.7) 2.0 2.0 2.0 1.7 2.0 2.0 2.0 1.9 2.1 2.1 2.1 2.0 02.2 6:1 6.1 6.1 2.2 2.1 7.8 24 1.7 < T Ú K (2.0) (7:7) (8.9) (1.7) 8.0 2.0 6.1 2.0 (6.1) (61) 2.1 2.0 2.0 2.0 8.0 8.0 2.1 2.1 1.20 2.1 2.0 6. 2.2 60 1 6.1 00 2.0 6: 6. 5-4) 6-7% K J U (1.7) (9.1) (3.1) (7.7) 0 0 (8.1) 2.3 8.0 83.0 2.0 2.0 6.1 1.8 2.1 2.0 8.0 2.0 2.0 2.0 2.2 1.8 6.1 2.0 22 6.1 83 00 00. 00. 63 T T d nj (2.0) (2.0) 7.8 2.1 2.0 2.0 2.1 2.1 2.0 2.0 2.2 8.0 2.2 (2.0) 2.1 2:1 2.0 6.1 2.1 0 0 2.1 1.6 1.00 2.2 2.1 2.2 6.1 0: H U Ť 3 d (2.1) (2.2) (1.5) (6.1) (6.1) 2.0 (2.1) (2.1) (1.5) 3.0 (2.3) 8.0 2.4 8.0 (2.2) (2.3) (2.3) 2.0 2.2 2.2 2.3 2.4 2.1 1.80 2.7 6.1 6.1 2.2 20 U U U U n (2.3)F (2.2) (2.1) (2.2) (8.1) 2.0 2.0 2.1 2.0 2. (2.3) 2.1 8.0 2.2 2.2 8.3 2.3 8.3 2.2 2.2 1.8 X 6 2 00 6 1.51 1.9 U 8 Sa 8 (2.1) (8.1) (22) 23) 2.4 2.0 2.0 TIME: 75° W MERIDIAN 30 2.1 2.0 2.1 2.2 33 2.2 2. B (2.3) 2.4 2.0 2.2 2 2.2 2.2 3. 6.1 1.7 1.7 08 0. V Q (b U (x.4) (2.7)F (1.7) (1.5) (2.2) 2.4 (91) (2.1). 2.5 (2.1) 7.7 2.2 2.3 33 2.1 2.0 22 2.1 8.3 2.2 2.0 1.8 17 6.1 2.1 20 U 3 2.0F (1.9)F (2.2) 12.6) (26)F 2.6 F 2.4) 2.4 2.5 2.3 8.3 2.4 2.3 (2.4) 2.3 2.3 2.4 2.4 2.4 5.3 2.4 23 3 2.6 573 7.6 3 2.51 2.5 2.2 S. G 90 (2.0)F (2.0)F (2.1)F (2.1)F 2.15 (2.2)F (2.2) (2.0)F (2.0)F (2.5)F (1.8)F (2.0)F (23) (2.1) (2.0)F (2.1)F (21) (18)F (2.0) (2.2) 2.0 7:18 2.3 02.2 2.4 2.2 00 2.2 20 2.02 1.2 50 (2.2)F (2.1) (2.3) (2.0)F 2.1 F 1(61) (2.0) 0 2.0 2.0 0 1.6 2.2 2.1 2.2 6.1 6.1 1.9 2.1 # Š (2.1/F 2.0F 10 C) 10F (2.0)F (21)F (2.2) (2.1) (2.3) (2.1)F (2.2)F 0 2.1 07.0 2.0 2.0 6.1 ×3.3 2.0 07.0 0 1.9 000 1.9 :13 00: 63 8 T 3 33 28 1/8 (2.0)F (2.4) (2.1)F (2.1)F 2.0 (2.1) (2.0) (2.2) 2.0)F (1.6)F (2.0)F (1.9)F (2.1)F (2.0)F 2.2 2.0 (34) 8.0 2.0 2.2 2.2 2.3 80 T 3 n 2 (2.3)F (2.1)F1 (2.1)F (2.2)F (2.0)F (61) (21) 2.0 2.0 2.0 (2.0) 2.0 2.0 2.1 7:1 2000 0.8 2.2 2.2 02.1 2. 8.0 2.0 0. 00 (2.0)1= (2.1)F (1.9)F (2.0) (2.2) (1.9)F 2.0 (2.0) (22) 2.0 2.0 0.00 2.0 2.1 1.1 2.0 22 2.1 2.1 6 28 1.0 61 (Institution) 00 0 3 Median 0 2 23 23 23 36 27 28 20 2 33 30 2 32 2 큐 35 3.6 37 99 Pri 콗 25

IONOSPHERE DATA-10 TABLE 60

Ionosphere Station

Washington, D. C. Ionation)
National Bureau Of Standards
(Inettitution)

Bourly values of F2-M3000 for August (Month)

Records measured by: J.M.C.

	23	180	3.1	3.1	-	ö	3.0	3.0	2.9	3.2	3.0	3.0	3.0	(2.9)	(3.1)	(3.3)	(3.3)	(6.2)	3.0	3.2	3.1	3.1	2.7	U	33	3.1	Ü	11.	(3.1)	3.2)	331	Ь		3.1
				_	2 3	9	/	_	<u>.</u>			-	3.0				E	0	_	Ĥ	/					Н		3 6		z) (3	3 (3	3)		
ů.	22	2.8	(3.0)	6	3.2	2.9	3.	3.0	3.0	3.0	(2.8)	3.1	$oxed{oxed}$	F (3.1)F	0	U	3.1	9	3.0	3.2	3.	3.3	(6.2)	V	(3.3)	(3.1)	U	7	(3.1)	1(3.	(3.	<u>(3</u>		3.1
R.L.S	12	(32)	(3.0)	3.1	3.1	2.8	3.0	3.0	3.0	3.0	3.0	3.2	3.0	(2.gr	3.0	3.0	(3.0)	3	3.0	(3.1)	3.2	3.2	2.8	4	(3.2)	3.2	J	2.8	3.0	(3.4)	3.2	(3.2		3.0
. 4	20	(3.1)	3.2	4	3.1	3.0	3.0	ပ	3.2	(3.2)	3.2	U	(3.1)	(3.0)	3.1	(6.5)	₹	3.0	(3.4)	(3·4)	(3.3)	(3.1)	3.1	3.1	U	3.2	(3.2)	3.3	3.1	(3.1)	(3.3)	(3.2)		3.1
	19	(3.2)	(3.4)	3.3	3.2	3.2	3.3	(3.3)	3.1	3.1	3.3	(34)	3.1	(3.1)	30	(3.2)	2.8	3.1	3.1	3.1	(3.2)	(3.1)	(3.2)	3.2	3.1	(3.2)	3.1	3.3	3.1	(3.2)	3.2	3.2		3.2
	16	2.9	2.9	3.2	3.1	3.1	3.1	3.1	3.1	3.1	(3.3)	(3.2)	3.3	3.0	U	(3.1)	(3.1)	3.1	3.2	3.0	3.2	(3.2)	(3.3)	3.2	3.0	3.2	3.1	3.3	3.2	3.3	3.1	3.2		3.1
,	17	2.9	J	(3:0)	2.9	3.1	3.1	3.2	3.0	3.1	(2.5)	3.2	3.1	2.7	U	3.2	3.2	3.1	(1.8	3.1	3.1	32	(3.1)	U	(3.1)	(3.1)	3.1	3.3	3.2	3.1	3.1	3.1		3.1
1	16	3.0	C	3.0 (3.1	3.0	2.9	3.0	3.0	2.9	3.0 (3.0	2.9	2.9	U	(3.1)	3.0	(3.2)	3.2 (3.2	2.9	3.0	(3.3)	2.9	3.0	3.2	3.1	3.2	2.9	3.2)	3.2	3.2		3.0
G .	15	2.9	2.8	3.0	3.2	3.0	(1.6	(3.1)	2.9	3.0	3.0	3.1	3.1	2.8	2.9	29 (3.1	(3.0)	3.1	3.0	3.0	3.0	(3.1) (3.0	3.0	(3.3)	3.0	3.0	3.0	3.9 (3.1	32		3.0
(Wonth)	1/1	2.8	6	A	2.9	3.1	(3.6)	30 (2.9	3.0	3.0	(3.1)	2.9	(3.6)	2.6	(3.1)	¥	(3.1) (.5)	(3.0)	3.1	2.9	3.0	ک ن	3.0	4	33 (2.9	3.2	3.1	3.0	3.7	3.1		3.0
	13	5	6) 2	4	U	83	(8	0	30 2		2.9	30 DC	3.0	(2.6) (0	(2.7)	0	(0.6	0	29 63	0	3.1	30	C	3.0	(8.2	3.1 3	2.8	2.9	0	2			-	3.0
		3.0 2.	(3.6) (2	, A	7	(8.8)	3 (2	.9 3.	2.9 3	0	3.0 2	2.9 3	2.7 3	12.4) (2	27 (2	2.8 2.	3.1 (3	3.1) 3.	3.0	30 3	3.0 3	6	2.9	3.0 3	2.9 (2	A	7	Э	7 3.	2.7 3	2 3.	(3.1) 3.	H	2.9 3
	21	Н		0	1	6 (2	0) 3.	0) 3.		9 3.			_		_	3	_	_			0	9 2	2 2		_		J.	2 3	9 3.	6	6 /	2 (3		
	11	1.8 (6	9 C	6	3.	2	(3	(3.	0 3.1	1) 2.9) · c	2.8	3	2.5	3) 2.7	3) 3.	2 3.0	0 3.0	m)	3.	3	0 2.9	Ġ	3.1	2) 3.1	3) 3.0	0 4	5 3.	9 2.	(3.	4 3.	2) 3.		3.0
	91	(5.5)	2	(38)	(3.1)	3.	J) c	w	(3.1)	(3.1)	Ú	8	(2.2)	(2.3)	(3.	3	6	U	3.2	3.	3	3.2	3.3	(3	(3	3	6)	ż	3.0	E)	3) (3.		3.1
	8	3.0	(2.1)	3.0	2.7	2.9	3.1	(3.3)	3.0	2.00	3.1	3.2			2.3	(3.3)	3.3	(3.1)	U	3.3	3.2	3.2	(3.2)	3.	3.2	3.3	(33)	3.3	2.7	3,00	3.4	(3.3)		3.1
NAIC	90	3.3	3.0	2.9	(C.C)	3.1	A	(3.1)	3.1	(3.3)	3.4	2.9	3.0	2.5	ß	(3.3)	3.2	3.3	3.2	3.3	3.2	3.1	(3.3)	3.2	2.9	2.8	3.4	U	3.6	3.0	3.2	J		.3.1
MERIDIAN	02	3.1	(4.2)	3.1	3.4	3.1	(3.1)	3.0	3.3	3.1	(3.6)	3.1	3.1	(3.6)	(2.2)	(1.6)	3.2	3.0	33	3.3	(3.2)	2.9	3.2	3.0	3.3	3.1	3.5	J	3.4	3.1	3.4	(3.7)		3.1
ο W R	90	3.5	3.6	3.3	3.3	3.2	34	3.3	3.4	3.5	3.5	9.3	34	3.5	(3.2)	3.4	w	3.2	3.3	3.3	(3.4)	3.3	3.3	3.3	3.4	(34)	3.6	J	(3.2)	3.6	(3.6) ^F	3.7 F		3.4
TIME: 75° W	05	(3.2)	3.0	3.0	3.3	(3.1)F	3.2	(3.2)F	(3.5)	(3.1)	33	3.5	3.2	(3.9)	2.8	3.2	(3.0)F	2.9	3.4	(3.2)	3.2	(3.3)	3.3	(3.1)F	(3.1)F	3.2	(3.3)	3.0F	(2.8)F	(3.1)	(3.0)	(3.0)		3.2
Ĭ¥.	ま	(3.2)F	(3.0)	2.9	2.9	(2.9)F	3.1	3.1	3.1	(3.0)F	(3.2)	32	(3.1)	(2.8)F	(3.0)	(3.1)	(3.7)F	(3.8)F	(3.3)	3.2	3.2	3.1	3.2	2.9	(3.3)F	3.1	3.0	3.0F	3.0 F	2.9	(3.0)F	U		3.0
	03	(3.0)F	(3.1)F	2.8	2.9F	3.0	200	2.8	29F		3.0	3.4	(3.2)	3.1	3.2	(3.2)	3.0	3.1		3.3	3.2	(3.3)	Æ	3.0	(3.1)F	38	3.0	2.9	3.0 F	2.9		(3.0) ^F		3.0
· ·	02	3.1 ((3.4)		3.0 F	3.0	3.1	3.0	3.2	(3.0)	3.2	3.0	3.0 (3.0	(3.1)	(3.1)F ((3.4)	(3.1)	(3.1)	3.2	(3.0)	(3.2) (3.0	3.2	(30)r	(3.0)	3.3	J	(2.8)F		(3.0)F ((3.0)F (3.0
	10	3.1	(33) (3.2	2.9	(3.1)	3.0	3.3	3.3	(3.1) (3.2	2.9		2.8	3.0 ((32)F (3.1	3.1 (2.9	3.1	3.2 ((5.9)	(30)	3.0	3.0 (3.2 ((33) ^F	J	(3.0) (3.2	(3.1)F ((3.1) [3.1
	00	(3.3)	(3.0) (.	(3.2)	H	3.2 (2.8	3.0	3.2	(3.2) (3.0	3.1	(2.9)	3.0	(30)F	(3.0) (1		_	2.9	3.2	4.9 (3.1 (2.9	3.1	0	(33)	3.0	(4.4)F (3.2	(3.1) ((2.9) (3.0
		(,	, ()	,				,			\exists							\dashv	-	-			\dashv	٠	Н				-				_
	Day	1	2		#		9	,		6	9	7	12	17	4	15	16	11	18	10	20	21	22	23	45	25	26	27	28	29	30	11.	91111	Medien

BONOSPHERE DATA- 11

Ionosphere Station

Washington, D.C.

Hourly values of FI-M3000for August (Month)

Records measured by: J. M. C.

23 8 21 8 39 (3.7) (40) (3.8) (3.8) (39) (3.8) (3.7) (39) (37) 3.0 8.00 (3.8) (3.8) 3.9 (3.6) 8.00 3.6 S 138 (35) 25.55 3.5 (3.6) 7. (42) 3.6 30 3.5 (35) (37) 3.6 3.6 3.6 3.6 10.5 3.6 35 3.6 k) (V) 3.7 £, 17 ⋖ T J 15 3.5 3.5 (3.4) 35 3.5 2.5 35 3.5 3.4 3.6 30 3.5 3.5 35 3.7 3.5 3.4 3.5 3.6 3.6 3.7 3.6 3.6 3.7 3.7 U S B 3.6 H (3.9) 3.6 3.5 3.5 3.5 3.5 3.9 3.7 3.9 3.9 35 34 35 3.5 3.6 3.5 30 15 3.7 37 3.7 3.9 3.6 3.6 60 37 3.6 3.6 4 ₹ H(7:E) (3.9) (40) 3.8 3.7 3.64 (3.8) (3.7) 3.5 30 3.7 3.5 5 8 3.7 3.7 3.7 3.7 3.6 背 3.9 38 3.8 (4:1)H (3.8)H 3.7 3.6 3.6 3.6 3.6 (35)H H(7:E) (3.8) 3.00 (35) (3.6) 3.8 (3.8) (3.6) (3.9) 3.7 3.7 8 (4) 8 3.6 3.9 3.7 4.1 3.7 3.7 3.8 3.7 3.6 13 3.7 J T 3.8 39H 3.8 (3.6) (39) (3.9) 3.8 H(8:E) (40) (3.7) 3.7 3.8 4.0 39 4 3.8 3.6 200 3.0 3.7 3.8 3.7 3.7 3.9 30 3.7 3.7 Ç \triangleleft ₹ H(6.E) H(8.E) 7.0 (1:4) (3.5) (4.0) 3.7 3.8 3.8 40 3.8 3.9 3.9 40 3.7 3.9 3.7 3.00 30 3.7 3.9 300 1 3.6 3.6 3.6 3.0 3.8 3.8 1 7 11 U K Œ H(8:E) (38) (3.9) H(8.E) (3.8) (40) (4.0) (3.9) (3.9) 3.9 4.0 (37) 3.7 3.9 3.9 40 3.9 40 3.6 30 3.7 3.8 3.9 3.6 3.8 3.7 J 36 3.8 ទ T J (3.7) 35 H (3.7) 3.8 3.7 23.7 (35) 35 3.8 3.7 3.7 3.8 3.9 30 30 3.6 3.7 3.7 3.6 39 3.6 3.6 30 36 36 3.6 Q 8 A 3.7 (35) (3.8) (3.6) (3.7) 3.7 35 10. 10. 200 3.5 3.8 35 TIME: 75° W MERIĎIAN 3.7 3.6 3.7 3.8 5.7 3.6 3.7 U 3.7 36 J 8 4 T Œ T V H(07) 3.6 (3.5) (3.7) (35) (35) (34) (3.7) (39) C 35 35 (37) 3.7 3.7 3.6 35 3.5 3.6 15 20 K ∢ J T T ◁ T 90 Standards 90 す National Bureau Of 6 ě 80 0 8 Median 92 23 9 = 15 1 9 2 * Day 2 4 16 7 2 26 27 7 • 7 2 2 8 8

TABLE 62

CCCLCZ					177																
(4=>616=616000)	1		1	Standards	ds	1		Hourly 7	ralues o	Mourly values of E-MISOO	11500	for AUGUST	GUS	1	794 B		Record	a measur	Records measured by: J. M.C.	, c	
/1101 1 1 1 1 1 1 1			F	TIME: 7	75° W. MERIDIAN	MERI	MAIC		į		,		E CHANGE	(11)				ì	ì		. !
Day (c)	Ŋ			15	90	0.7	90	60	30	'nut 'bert	20	DT.	3.4	3.5	3.6	87	35	53	20 2	200	(3)
					(3.6)	(3.7)	et.	A.	(42) ((4.5)	(4.3)	4.3 ((4.3)	W.	(44)	3.9	(40)		J		
60					(60)	4	4	B	P	U	9	(M. A.)	(42)	(4.4)	9	0	AF	0			
25	;		 		AF	0	-AL	A	A	4	4.	T	A	4	*	4	(42)	rmati			
7			-		9	(4.4)	2.3	(4.4)	4	A.	T	is is	et.	e e	9	(6.2)	(4.2)	e e			
21			a factor of		J(55)	4	0		(43) ((44)	(44)	4.46	(4.5)	(43)	~	4.3	7	A			
9	,				8.	(4.3)	N.		R	(3)	(44)	R		T,			(4.1)	-			
					~	(42)	T		A	(4.3)	(4.3)	(4.3)	(4.2)	8	(4.2)	(5:0)	B	(3.6)			
	-				(3.8)	(3.8)	(4.2.3)	A	(4.3)	(43)	42	4.3	42 ((43)	P	(66)	4	4			,
0					T T	~	d.	- T	বং	A	(4.4)	(4.2)	V	(4.2)		0%	A		The second secon		
UL UL					W_	4		44 (453	Q'e	A	Þ		(4.4)	4.2	(6%)	AF				
	ı				V	8,	e.	A	0	T	T	V	S.	4	4	B	3.8)F	EDHARL THE			
	1		1	1	1	T.	77	4	T.	- T	Q.	A	(4.5)	(8:3)	(1.2)		AF				
	1.	. 6419				10270	13:	V		43	1		1. 12.	100		-	(3.7)				
11/4		an paragraph			6	100	1	10	er.		10	1/5	4	(4.5)	0)	-	AF		-		
5					35	V	4	च	(4.5)	4	0 (0 %)	1 (44)	(4.4)	(4.4)	(42)	(3.9)	A				
36		p+ - 2-			á,	40	.47	7	7	-L. 274	er.	~	4	V	(42)	B. B.	A	-p.c.	-		
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98					2)*	(31)(4)	0-	1,27	2.	*****	(1 7. 7. 7	 -5"	į(~.,	()	(7.	<	-				
			1 - 4		[~]	E)	4.5	(1/4)		4	70		Take !	10.	17.7%	(6/3)	2	lace spec	-		
No.	· -	*******	, turn 19.	1		(41)	1			(7:3)	1 (9 %)	1(34)		1301	7 7	(1/6)	4	No. 200			
			~° 20		14 (4	((2))		4.	(45)	(25. 24. 3	14 74	(42)	20, 8-	(4.1)	T	Q.	gg=.500			
30			574		(3.7)			(44)	4.2	17	(4.5)	7.	N.	4.1	42	(40)	V				
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						-				all r		-					,	.00		-	
The second second										9	_			54	-		-				

* Median obtained from four values or less.

Table 63
Ionospheric Storminess, August 1945

Day	Ionospheric	Character*	Principal	Storms/	Geomagnetic	Character**
	00-12 GCT	12-24 GCT	Beginning	End	00-12 GCT	12-24 GCT
			GCT	GCT		
August					tion of the state	
1	2	3			1	2
2	3	3			3	2
3	2	1			2	2
4	2	2			2	1
5	1	1			2	2
6	2	2			2	1
6 7		1			1	1
8	2	1			1	2
9	1	ī			1	1
10	1	ī			, 1	1
11	ī	0]	1	2
12	ī	1			2	
13	2	3			2 3 2 2	2 2 2
14	2 2 2	3			3	2
15		1			2	2 .
16	1	1			2	
17	1	1			1	1
13	1	0			1	-
19	1	0	•		1	1
20	1	1				2
21	1	1			2 1	
22	2	1			3	3 1
23	2	3			i	ō
24	3	3		i	î	Ö
25	2	2			ī	i
26	2	3			ī	2
27	2	2			4	2
28	3	3			. 2	1
29	3	3			0	1
30	3 2	2			1	1
31	2	۵				
		7 - 0	impol for ic	nospheric	storminess	at

*Ionosphere character figure (I-figure) for ionospheric storminess at Washington, D.C., during 12-hour period, on an arbitrary scale of O to 9, 9 representing the greatest disturbance.

resenting the greatest disturbance.

/ No major ionosphere storms were observed at Washington during August, 1945.

o to 9, 9 representing the greatest distillute.

** Average for 12 hours of American magnetic K-figure, determined by a mamber of observatories, on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

Table 64
Sudden Ionosphere Disturbances Observed
at Washington, D.C.

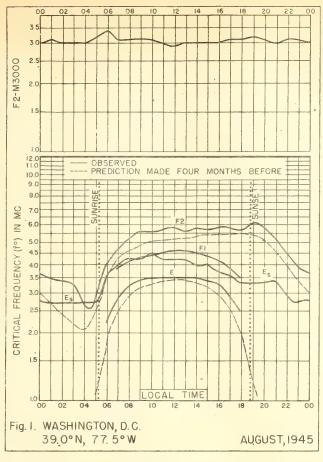
Day	GCT Beginning	End	Locations of transmitters	Relative intensity at minimum#	Other phenomena
August					
17	2020	2145	Ohio, D.C., England, Mexico, Brazil, Chile	0.0	Terr.mag. pulse** 2019-2120

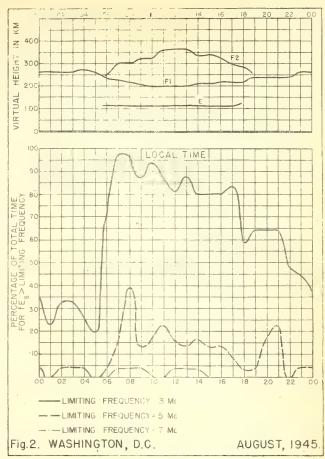
^{*}Ratio of received field intensity during SID to average field intensity before, and after, for station WSXAL, 6080 kilocycles, 600 kilometers distant.

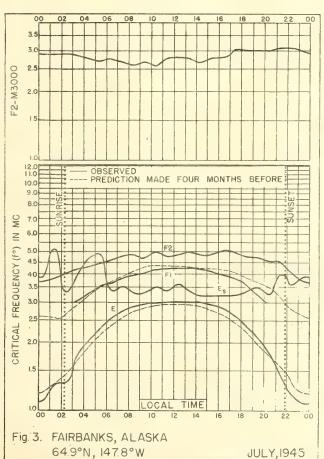
^{**}As observed on Cheltenham magnetogram of the United States Coast and Geodetic Survey.

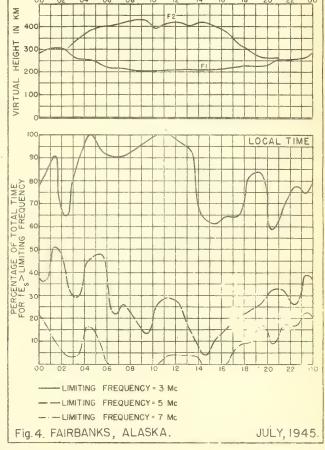
Provisional Radio Propagation quality Figures July 1945 Compared with IRPL and ISIB Warnings and IRPL A-Zone Forecasts.

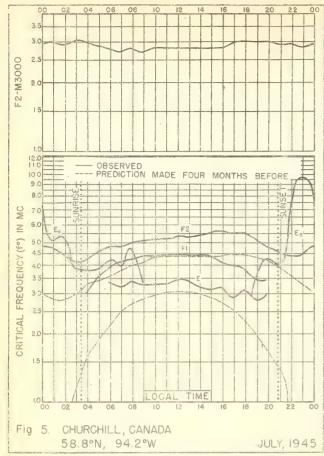
Quality Figure and Forecast Scale;	2 = Very poor 3 = Poor	Fair Fair	8 wery good	y Excellent	Symbols	X = Warning given.	H = Quality 4 or worse	on day or half-day	M # Quality 4 or worse		following no	Warning. G = Quality 5 or better			(S)= Quality 5 on day		S = quality o or	following warning	()= Quality or forecast		turbed)		Geomagnetic KA on the	standard scale of 0 to	9, y representing the	greatest disturbance.				
1 0	Toe	72-5¢	%	03 1	- 12	0.00	or o	N O	. 03	-	٠,	4.0	_	-1	N 1	ю.		4		-	PG	e-1	-	- 4 -	-1 /		n 10			
Geo- mag- netic		21-10	4	03 (NI NI	19		2 60	0 03	pel a	H 6		~	Н,	c		40	3 -	i m	-	Н	03	— ·	H, C) i	20	3 4	1 03		
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North Pacific RPL A-Z Warning Fo	TAN	IO-OT		4																										
lorth Pac IRP L Warning		13-24		×			 - -	~ ×									K K							×				×	H 0	20 H 90
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0 11	Ton																											Þ¢		
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	TOD.	12 - 24		×	bd		set 1	»d									×							×	١			×		
		SI-IO		×				×							,		×							•				×	N2 N	22 44 4
Quality Figure	700					. 45		0.45											,											
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Day			-	03					_	9	1:	27 27	14	15	16	17	2 0	50	212	22	23	24	25	56	1.2	00 0	200	310	Soore	10 0 W

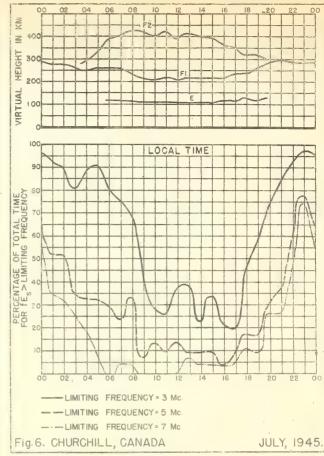


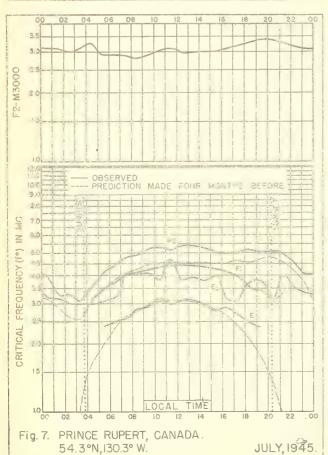


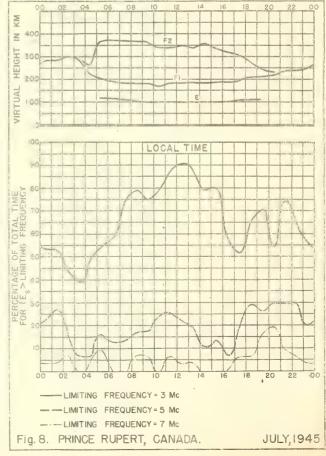


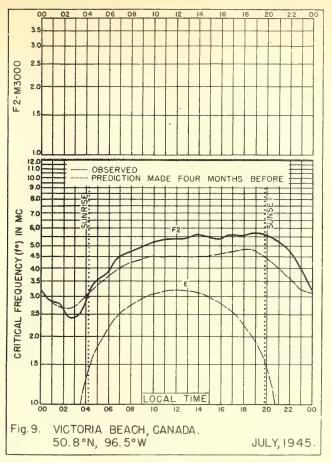


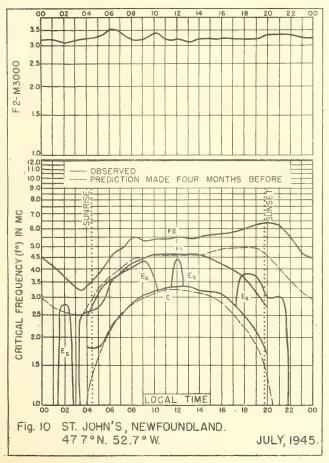


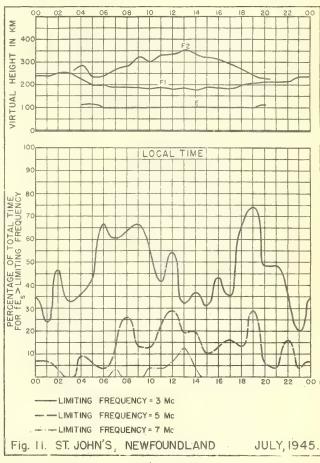


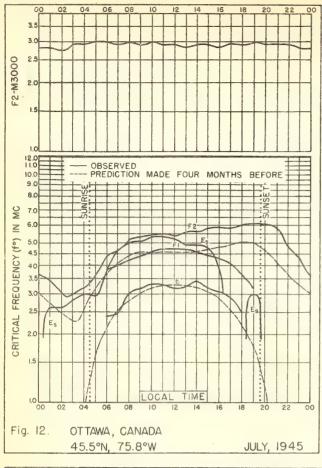


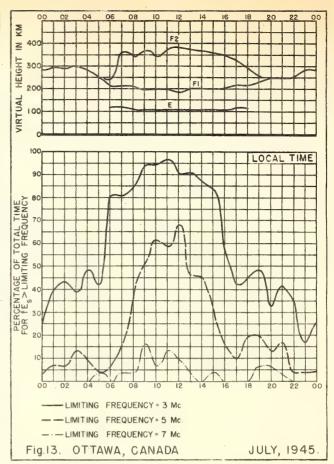


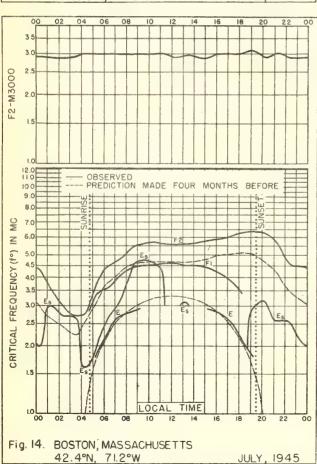


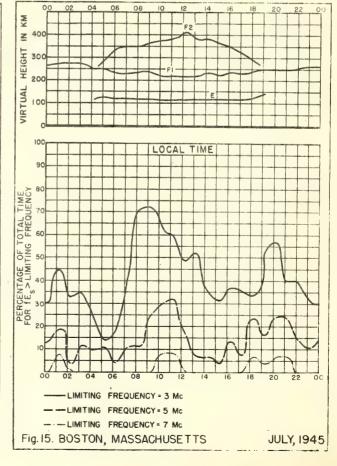


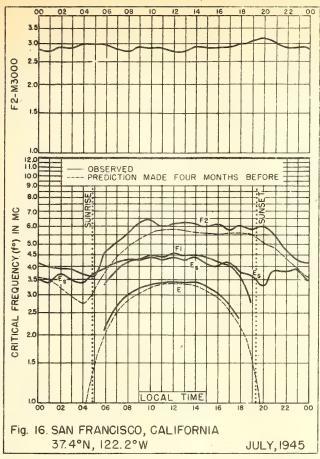


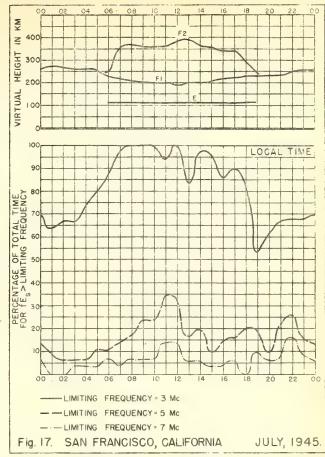


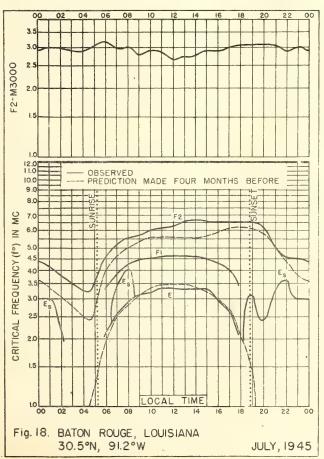


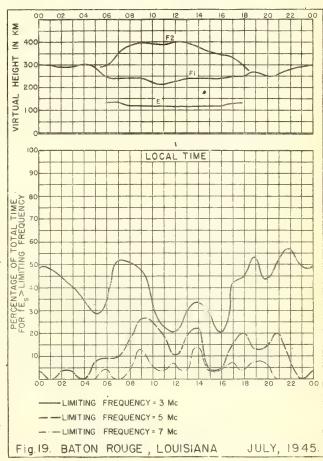


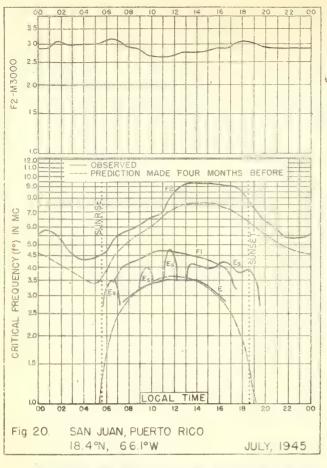


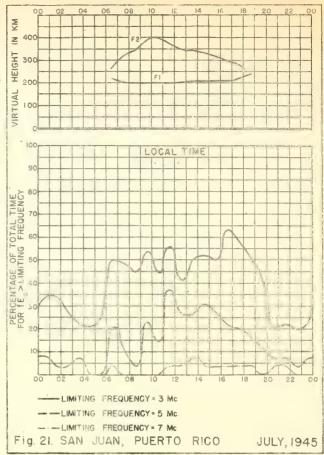


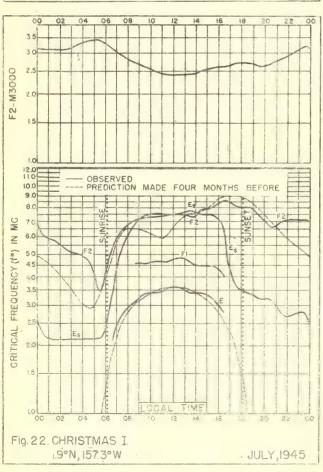


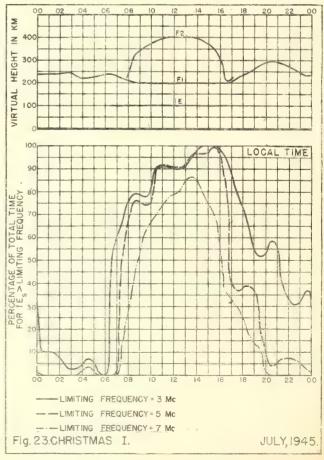


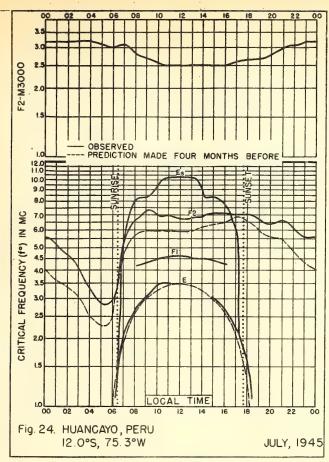


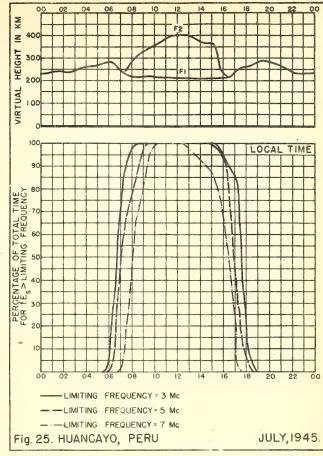


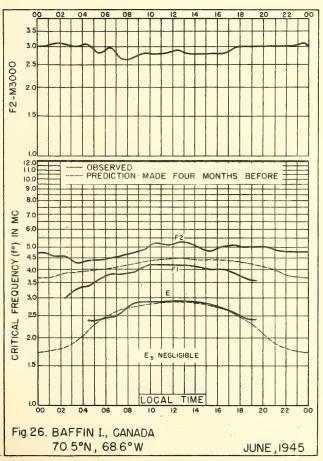


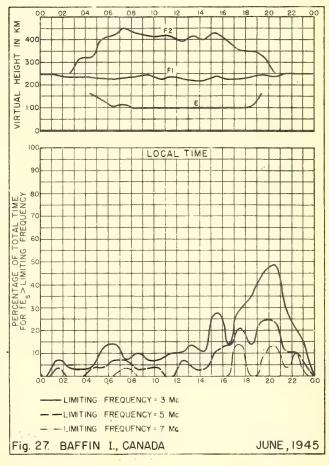


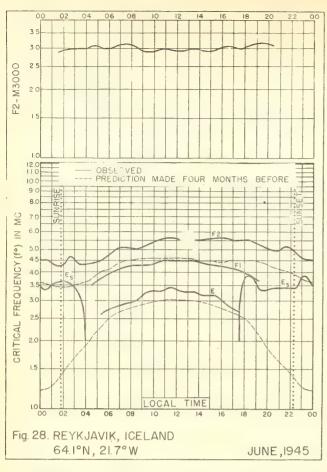


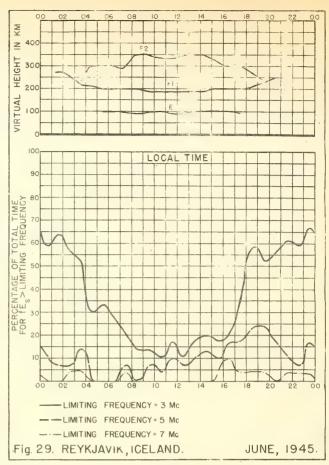


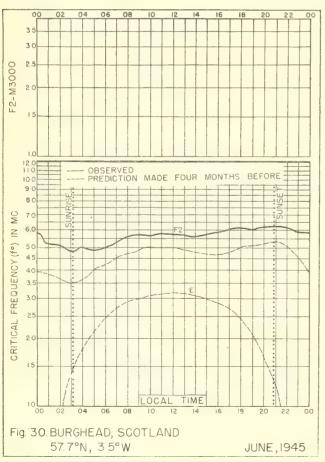


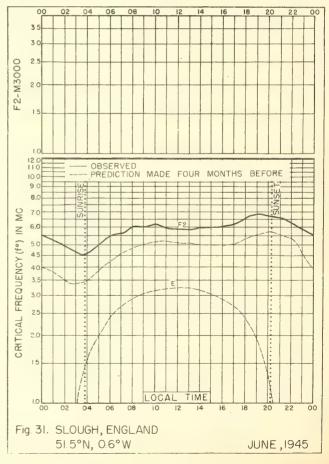


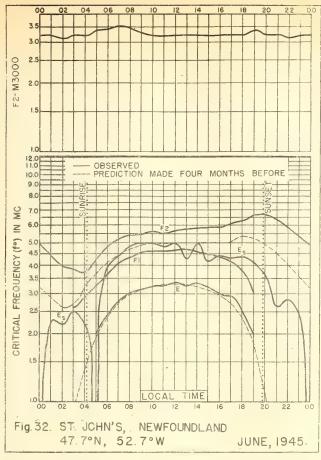


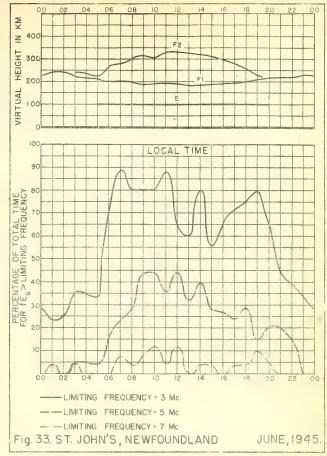


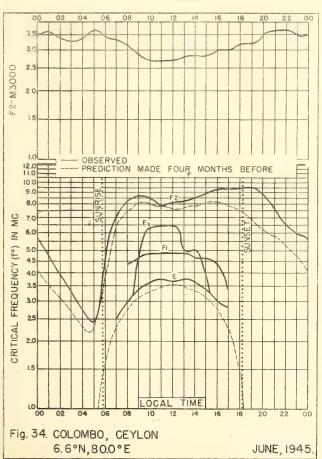


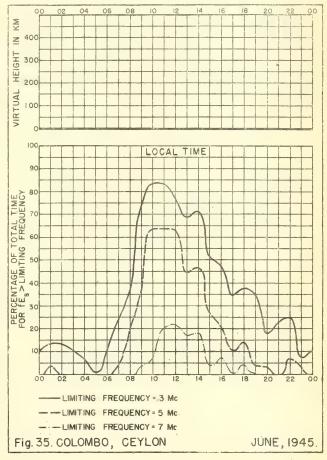


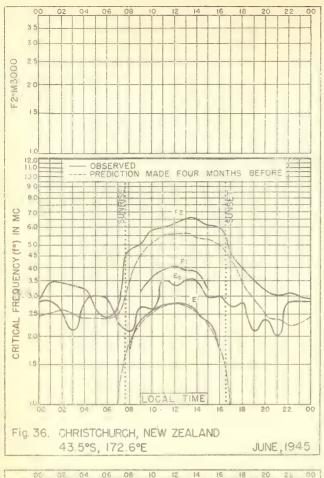


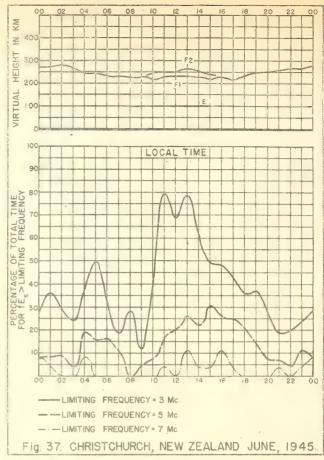


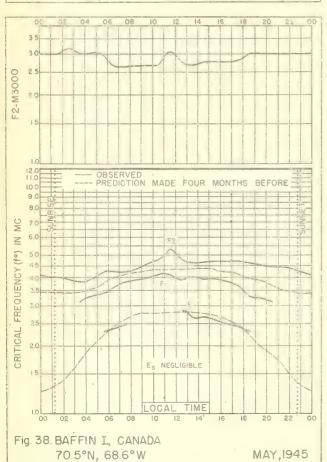


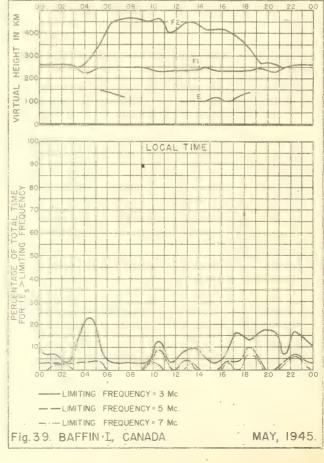


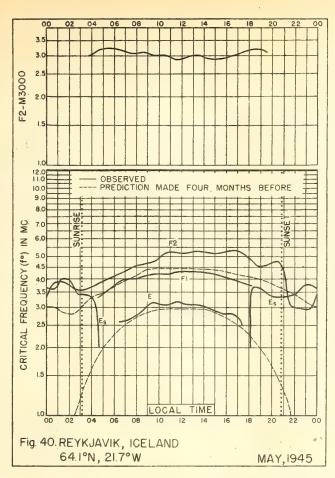


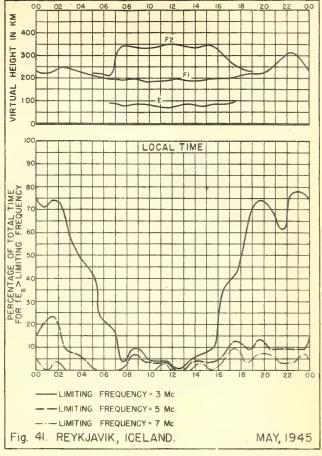


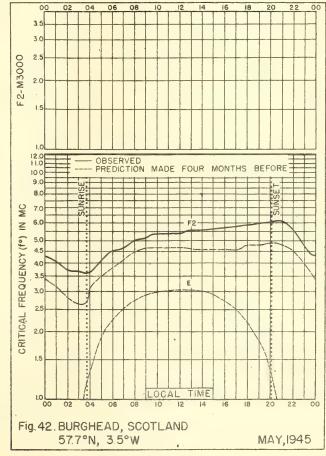


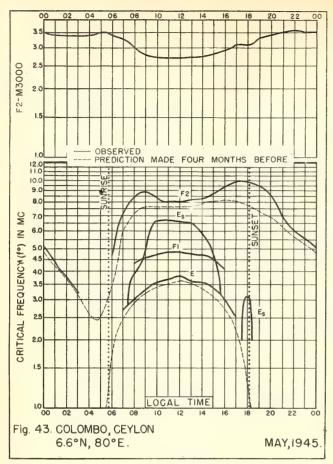


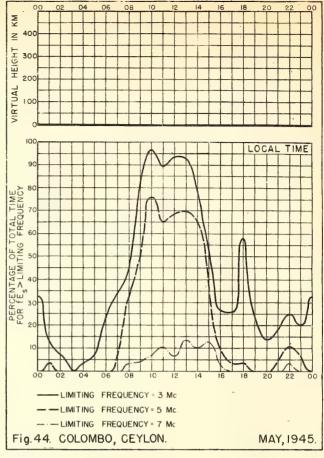






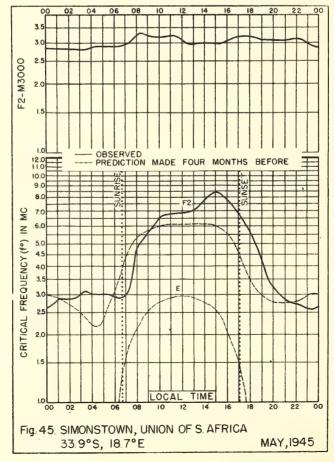


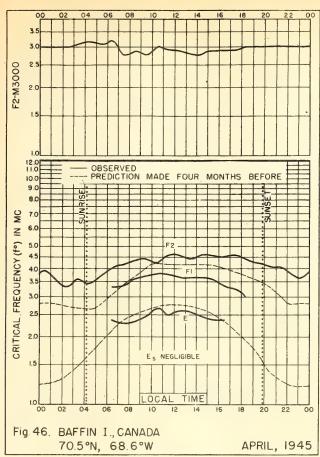


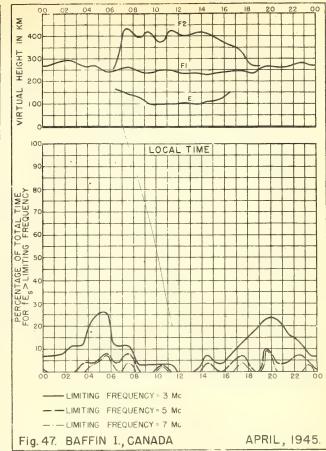


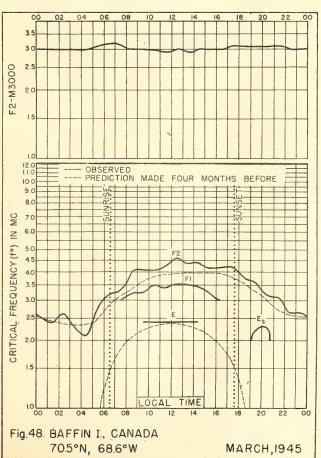


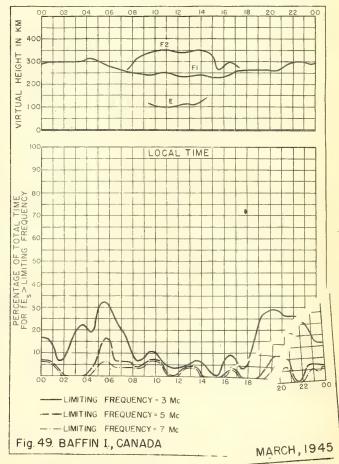
As this issue went to press, word was received that observed data from Simonstown have been reported one hour too late. Data for OO should be for 2300 etc. See ERRATA section.

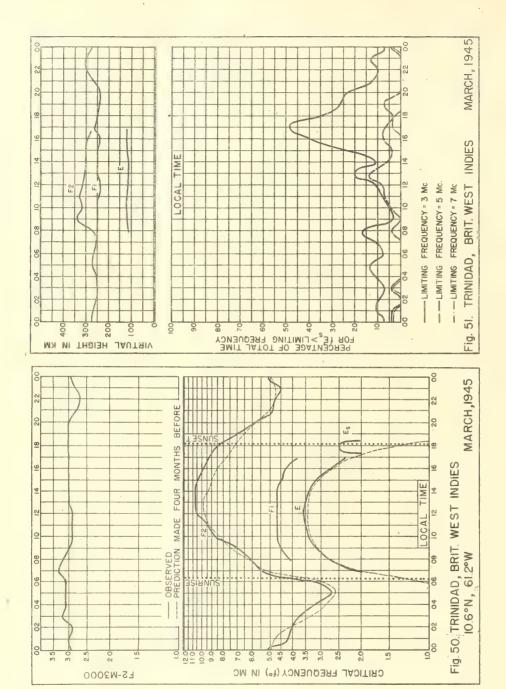


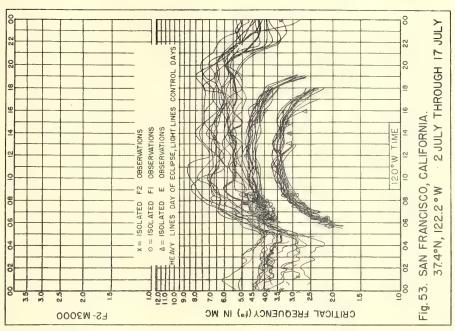


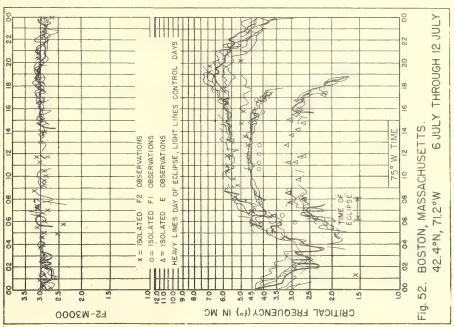


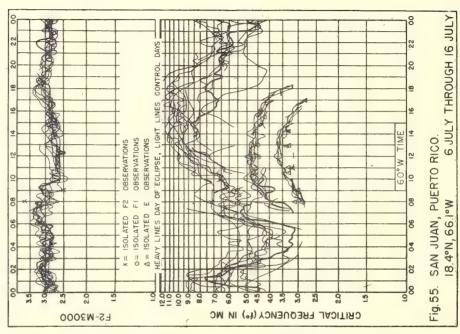


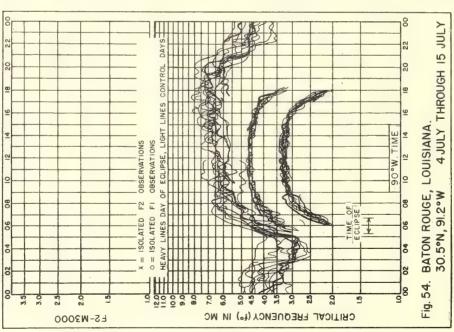


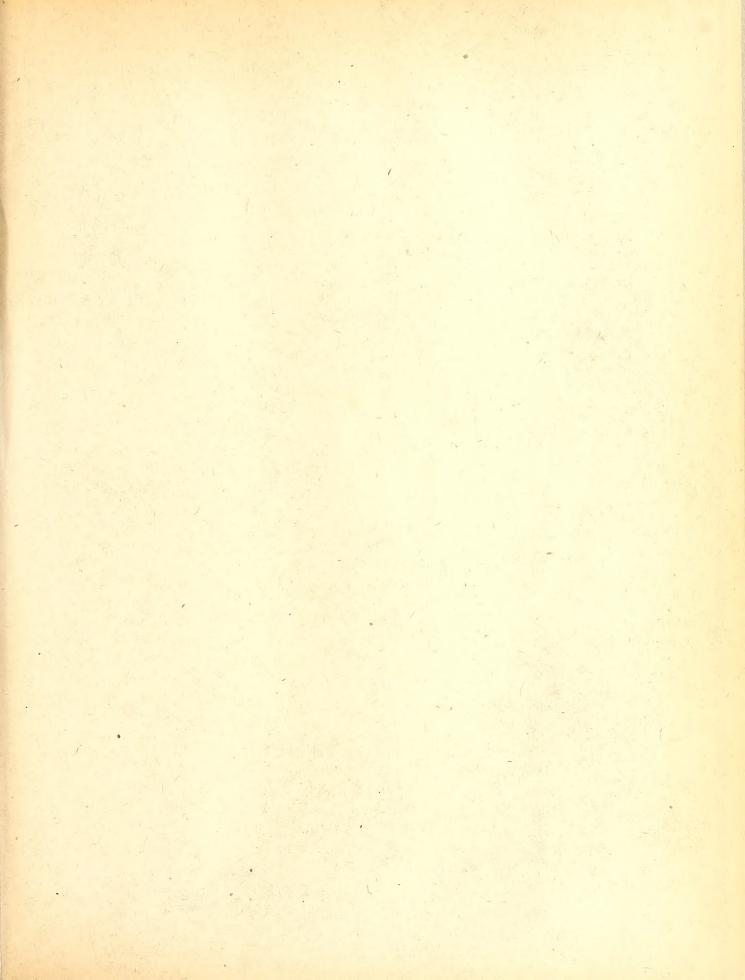


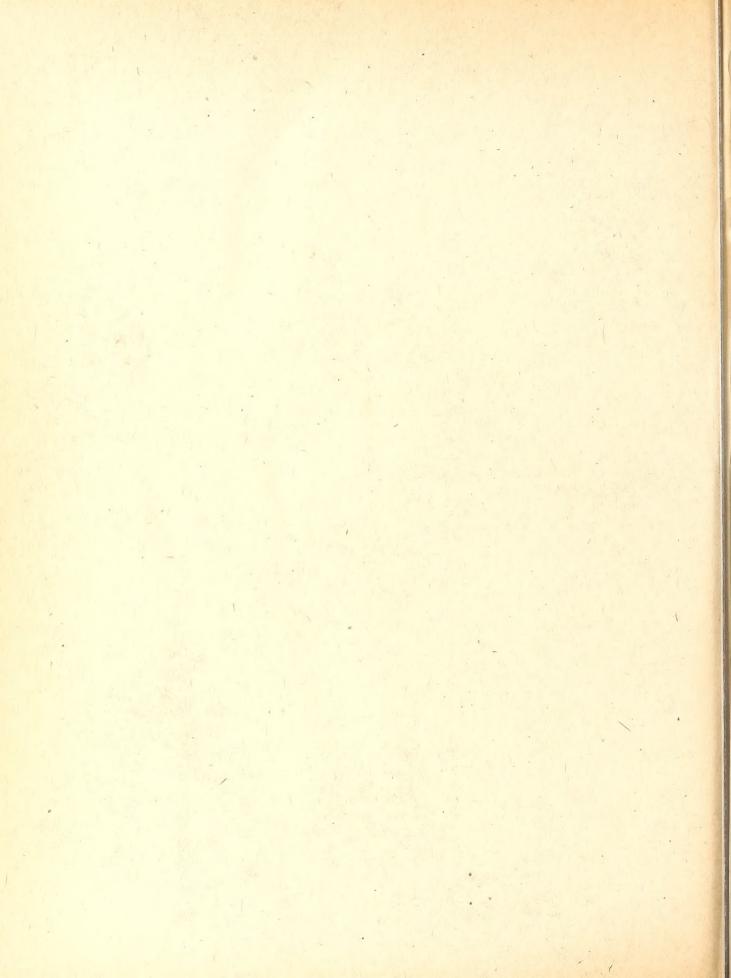












Daily:

Telephoned and telegraphed reports of ionospheric, solar, geomagnetic, and radio propagation data from various places. Radio disturbance warnings.

Semiweekly:

IRPL-J. Radio Propagation Forecast.

Semimonthly:

IRPL-Ja. Semimonthly Frequency Revision Factors for IRPL Basic Radio Propagation Prediction Reports. (Issued with IRPL-J series from 4 to 7 days in advance).

Monthly:

IRPL-D. Basic Radio Propagation Predictions - Three months in advance. (War Dept. TB 11-499- , monthly supplements to TM 11-499; Navy Dept. DNC-13-1 (). monthly supplements to DNC-13-1).

IRPL-F. Ionospheric Data.

Bimonthly:

TRPL-G. Correlation of D.F. Errors with Ionospheric Conditions.

Quarterly:

*IRPI-A. Recommended Frequency Bands for Ships and Aircraft in the Atlantic and Pacific.

IRPL-B. Recommended Frequency Bands for Submarines in the Pacific.

*IRPL-H. Frequency Guide for Operating Personnel.

** IRPL-M. Frequency Guide for Merchant Ships.

Special Reports, etc.:

IRPL Radio Propagation Handbook, Part 1. (War Dept. TM 11-499; Navy Dept. DNC-13-1). IRPL-C1 through C61. Reports and papers of the International Radio Propagation Conference, 17 April to 5 May 1944.

IRPL-R. Unscheduled reports:

Rl. Maximum Usable Frequency Graph Paper.

R2 and R3. Obsolete.

R4. Methods Used by IRPL for the Prediction of Ionosphere Characteristics and Maximum Usable Frequencies.

R5. Criteria for Ionospheric Storminess.

R6. Experimental studies of ionospheric propagation as applied to a navigation system.

R7. Further studies of ionospheric propagation as applied to a navigation system.

R8. The Prediction of Usable Frequencies Over a Path of Short or Medium Length. Including the Effect of Es.

R9. An Automatic Instantaneous Indicator of Skip Distance and MUF.

R10. A method for study of the ionosphere.

Rll. A Nomographic Method for Both Prediction and Observation Correlation of Ionosphere Characteristics.

R12. Ionospheric variations.

R13. Ionospheric and Radio Propagation Disturbances, October 1943 through February 1945.

R14. A Graphical Method for Calculating Ground Reflection Coefficients.

R15. Predicted Limits for F2-Layer Radio Transmission Throughout the Solar Cycle.

R16. Predicted F2-Layer Frequencies Throughout the Solar Cycle, for Summer, Winter, and Equinox Season.

R17. Japanese Ionospheric Data - 1943.

R18. Comparison of Geomagnetic Records and North Atlantic Radio Propagation Quality Figures - October 1943 Through May 1945.

R19. Nomographic Predictions of F2-Layer Frequencies Throughout the Solar Cycle, for June.

R20. Nomographic Predictions of F2-Layer Frequencies Throughout the Solar Cycle, for September.

IRPL-T. Reports on Tropospheric Propagation.

Tl. Radar Operation and Weather. (Superseded by JANP 101).

T2. Radar coverage and weather. (Superseded by JANP 102).

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